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REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER NPRDC TR 84-10	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) THE MEASUREMENT OF ORGANIZATIONAL FUNCTIONING AND QUALITY OF WORK LIFE		5. TYPE OF REPORT & PERIOD COVERED Special Report FY83
		6. PERFORMING ORG. REPORT NUMBER 72-83-1
7. AUTHOR(s) Arthur J. Farkas		8. CONTRACT OR GRANT NUMBER(s)
9. PERFORMING ORGANIZATION NAME AND ADDRESS Navy Personnel Research and Development Center San Diego, California 92152		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS Z1169-PN.01
11. CONTROLLING OFFICE NAME AND ADDRESS Navy Personnel Research and Development Center San Diego, California 92152		12. REPORT DATE December 1983
		13. NUMBER OF PAGES 68
14. MONITORING AGENCY NAME & ADDRESS (If different from Controlling Office)		15. SECURITY CLASS. (of this report) UNCLASSIFIED
		15a. DECLASSIFICATION/DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report) Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number) Navy civilian employees Quality of work life Organizational effectiveness Michigan organizational assessment questionnaire Organizational climate Job attitudes		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number) A modified version of the Michigan organizational assessment questionnaire was administered to 496 Navy civilian employees at two industrial activities. The questionnaire was designed to assess demographics, general attitudes, job facets, task and role characteristics, work group functioning, supervisory behavior, pay, organizational characteristics, and physical characteristics of the work space. A total of 34 factor-based scales were constructed and then combined into 5 composite scales		

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that measured intrinsic job satisfaction, supervision, interpersonal climate, organizational climate, and pay-habitability satisfaction. These scales can be used as a reliable and valid way to assess organizational functioning and quality of work life.

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THE MEASUREMENT OF ORGANIZATIONAL FUNCTIONING AND QUALITY OF WORK LIFE

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**NAVY PERSONNEL RESEARCH
AND
DEVELOPMENT CENTER
San Diego, California 92152**



**THE MEASUREMENT OF ORGANIZATIONAL FUNCTIONING
AND QUALITY OF WORK LIFE**

Arthur J. Farkas

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FOREWORD

This research and development was conducted in support of work unit Z1169-PN.01 (Civilian Productivity Enhancement). The primary purpose was to provide reliable measures of perceived organizational functioning and quality of work life. Such information is needed by Navy managers in the Navy industrial community to design effective organizational changes to improve organizational functioning and morale.

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SUMMARY

Problem and Background

Fully one third of Navy Department civilian employees perform various support functions in industrial organizations whose productivity has a direct impact on fleet readiness. Efforts to improve productivity, while successful in the short-term, may have negative side effects on other aspects of organizational functioning and the quality of work life. Therefore, a broad-gauged, standardized instrument is needed to assess organizational function and the quality of work life.

Purpose

The purpose of this effort was to develop a standardized, cross-validated instrument to measure organizational functioning and the quality of work life as perceived by members of Navy industrial organizations.

Approach

The Michigan organizational assessment questionnaire was modified and administered to a sample of employees at Navy industrial facilities. The questionnaire was designed to assess general attitudes, job facets, task and role characteristics, work group functioning, supervisory behavior, pay, organizational characteristics, and physical characteristics of the work space. Of respondents returning the questionnaire (N = 496), about half were engineers and engineering technicians. Fifteen factor analyses were performed on the responses from each facility and the emerging factors used to create 34 factor-based scales. The reliabilities of these first-order scales were assessed.

To isolate the basic dimensions underlying the first-order scales, they were submitted to factor analysis and results used to create five second-order, factor-based scales. The reliabilities of the second-order scales were also assessed.

Results

1. The 34 first-order scales created by factor analyses are listed below.
 - a. Five general attitude (GA) scales: General job satisfaction, achievement motivation, organizational commitment, investment in current job, and job involvement.
 - b. Five job facet (JF) scales: Importance of sense of accomplishment/freedom/growth, satisfaction with sense of accomplishment/freedom/growth, satisfaction with interpersonal outcomes, sense of accomplishment/growth for good work, and supervisory recognition for good work.
 - c. Eight task and role characteristic (TRC) scales: Self-evaluation of performance, job challenge, self-control of work pace, job importance, necessity for cooperation and coordination, job meaningfulness, fair workload, and sense of job responsibility.
 - d. Three work group functioning (WGF) scales: Work group cohesion, work group concord, and group decision making.
 - e. Four supervisory behavior (SB) scales: Consideration, initiating structure, production emphasis, and sensitivity.

f. Four pay (P) scales: Individual determinants of pay, other determinants of pay, satisfaction with pay, and fairness of pay.

g. Three organizational characteristics (OC) scales: Lack of impediments to productivity, facilitation of productivity, and good communication.

h. Two physical characteristics of the work space (PC) scales: Desirability of the work space, and importance of desirability of the work space.

In one sample, the reliabilities of the first-order scales ranged from .63 to .95, with a median of .79; in the other sample, they ranged from .54 to .95, with a median of .78.

2. The five second-order scales created by factor analyzing the first-order scales were intrinsic job satisfaction, supervision, interpersonal climate, organizational climate, and pay and habitability satisfaction. The reliability of these scales ranged from .64 to .87, with a median of .79.

Recommendations

Project managers should ensure that:

1. Further reliability and validity studies be conducted on these scales.
2. Norms are developed for these scales on a larger, more representative sample of Navy civilian employees.

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INTRODUCTION

Problem and Background

Fully one-third of Navy Department civilian employees perform various support functions in Navy industrial activities (e.g., shipyards, air rework facilities, and supply centers). Due to their large number, the productivity of these employees can have a major impact on fleet readiness. Consequently, Navy managers are concerned with improving their productivity (Nebeker, Broedling, & Doherty, 1978).

Researchers have examined several approaches to productivity enhancement, including (1) impediments to productivity (Broedling, Crawford, Kissler, Mohr, Newman, White, Williams, Young, & Koslowski, 1980; White, Atwater, & Mohr, 1981), (2) feedback and goal setting (Dockstader, Nebeker, & Shumate, 1977; Crawford, White, & Magnusson, 1983); (3) economic incentives (Bretton, Dockstader, Nebeker, & Shumate, 1978); Dockstader, Nebeker, & Shumate, 1978; Shumate, Dockstader, & Nebeker, 1978, 1981), (4) quality circles (Atwater, 1981), and (4) quality of work life issues such as flextime (Kissler, Brown, & Smith, 1980). While these efforts may improve productivity in the short-term, they may have negative side effects on other aspects of organizational functioning or on the quality of work life. Therefore, a broad-gauged, standardized climate questionnaire is needed to assess the quality of work life. Such a questionnaire, besides assessing possible negative side-effects, may also suggest other avenues for productivity enhancement.

Purpose

The purpose of this research was to develop a standardized, cross-validated instrument to measure the quality of work life and general organizational functioning as perceived by the members of Navy industrial organizations.

PROCEDURE

Measure

The Michigan organizational assessment questionnaire (MOAQ) (Nadler, Cammann, Jenkins, & Lawler, 1975) was modified for use in the present study. Two new modules were developed--one to assess bureaucratic and other impediments to productivity; and the other, the habitability of the work space. Also, items in the demographics module were either added or reworded. The modified questionnaire (see Appendix A) contained 242 items grouped into the following nine modules:

1. Demographics (13 items).
2. General attitudes (23 items).
3. Job facets (32 items).
4. Task and role characteristics (46 items).
5. Work group functioning (14 items).
6. Supervisory behavior (39 items).
7. Pay (29 items).
8. Organizational characteristics (20 items).
9. Physical characteristics of the work space (26 items).

An additional three items assessed test-taking attitudes.

Sample

The questionnaire was administered to civilian employees at two naval facilities. At one facility, the questionnaires were individually distributed to 471 employees by their supervisors during October 1981 and returned in sealed envelopes. At the other facility, the questionnaires were distributed to 166 employees and collected by the author during two group administrations in March 1982. In both instances, participation was voluntary.

Analyses

To reduce the large number of items to a more manageable set of basic variables, 15 principle component factor analyses with varimax rotation were performed for both samples. The number of analyses conducted per module depended on the content of the items in the module: Three analyses were performed on Modules 3 and 4; two on Modules 7, 8, and 9; and one on Modules 2, 5, and 6. No analysis was performed on Module 1 (demographics). Eleven items (4 from Module 2, 1 from Module 4, 3 from Module 7, and the 3 items on test-taking attitudes) were excluded from analyses.

When multiple factors emerged in both samples for a particular analysis, these factors were subjected to further analysis. When the same factor emerged in both samples, it was retained in both samples, if it had an eigenvalue of 1.00 or greater in at least one of the samples. The rotated factor loadings from both samples were also submitted to RELATE (Veldman, 1967) to assess the similarity of the factor structures.

In analyses where only a single factor emerged in both samples, an item was included in the factor-based scale if it loaded .40 or greater on the factor in one sample and between .39 and .21 on the factor in the other sample. It should be noted that .21 is the smallest factor loading for the smaller sample that differs significantly from .00 at the .05 alpha level. For analyses where multiple factors emerged in both samples, the following, more complex, rules were used to create factor-based scales:

1. If an item loaded .40 or greater on only one factor in both samples and RELATE indicated that the content of these two factors was the same, it was included.
2. If an item loaded .40 or greater on only one factor in one sample and between .39 and .21 on only one factor in the other sample, and RELATE indicated that the content of these two factors was the same, it was included.
3. If an item loaded .40 or greater on two factors in each sample, it was included on the factor in each sample upon which it had the greatest loading, as long as RELATE indicated that the content of these factors was the same.
4. If an item loaded .40 or greater on only one factor in one sample but loaded significantly¹ on two factors in the other sample, it was included on that factor in the sample where it loaded on two factors, if RELATE indicated its content was the same as that factor in the other sample where it loaded on only one factor.

¹Item loaded .40 or greater on one factor and at least .21 on the other.

5. If an item loaded significantly on two factors in both samples, RELATE indicated that the content of the two factors in one sample corresponded with that of the two factors in the other sample, and the item loaded more strongly on one factor in one sample but more strongly on the other factor in the remaining sample, it was assigned to that factor in each sample to which it was judged to be most congruent.

6. If a different number of factors emerged in the two samples and RELATE indicated that the content of one factor in one sample was divided between two factors in the other sample, two factor-based scales were created. Items that loaded .40 or greater were included in these two factors.

7. In addition to comparisons between samples, item inclusion decisions occasionally were based on comparisons across analyses. For example, separate analyses were done for the importance ratings of a set of job facets, as well as for the satisfaction ratings of the same set of job facets. When comparable factors emerged for both the importance and satisfaction ratings, a job facet item was included in both the importance and satisfaction factor-based scales, if it loaded .40 or greater on both of these factors.

To further reduce the number of dimensions, the first-order, factor-based scales derived above were also submitted to factor analysis. The second-order analysis was performed on the pooled data from both samples. Second-order, factor-based scales were created for those second-order factors with eigenvalues of 1.00 or greater. First-order scales were included in these second-order scales on which they loaded .40 or greater.

To assess the reliability of these first- and second-order scales, Cronbach's (1951) alphas were calculated.

RESULTS

Demographic Characteristics

The total, usable, sample included 496 respondents--341 from the first facility and 155 from the second. Hereafter, these samples will be referred to as Samples A and B.

Table 1, which provides demographic characteristics for the two samples, shows that they differed significantly by sex, race, education, and occupation, but not by salary. The fact that there were significantly more females in Sample B than in Sample A reflects intentional sampling bias. Since the main purpose for administering this questionnaire was to provide survey feedback to the organization and not to develop attitude scales, managers of Sample A decided to exclude clerical employees, who are exclusively female, while managers of Sample B decided to include them. Sample B also included significantly more Caucasians but fewer Asians than did the Sample A. Sample A, however, was significantly better educated. While both samples had approximately the same percentage of engineers, Sample A had a much lower percentage of technicians than did Sample B. Sample A respondents listed under the "unknown" occupation category had failed either to provide their SSN or to answer the occupation item. Nearly a third of them came from a branch that included mostly wage-grade mechanics; the rest were evenly distributed over the rest of the branches in facility.

First-order Factor Analyses

The factor loadings obtained from the 15 analyses performed on the two samples are provided in Appendix B. The 34 factors emerging from these analysis are listed in Table 2.

Table 1
Demographic Characteristics of Samples A and B
(N = 496)

Variable	Sample				X ²
	Sample A		Sample B		
	N	%	N	%	
Sex:					
Females	24	7.0	30	19.4	15.03**
Males	313	91.8	125	80.6	
Unknown	4	1.2			
Total	341	100.0	155	100.0	
Race:					
Caucasian	224	65.7	114	73.5	12.01*
Asian	58	17.0	9	5.8	
Black	23	6.7	11	7.1	
Hispanic	18	5.3	12	7.7	
Other	18	5.3	9	5.8	
Total	341	100.0	155	99.9	
Education:					
High school or less	23	6.7	10	6.5	11.58*
Some college	155	45.5	97	62.6	
College degree	77	22.6	26	16.8	
Some graduate work	38	11.1	15	9.7	
Graduate degree	34	10.0	7	4.5	
Unknown	14	4.1			
Total	341	100.0	155	100.1	
Salary:					
Less than 15K	26	7.6	20	12.9	9.51
15K to 18,999	24	7.0	6	3.9	
19K to 22,999	32	9.4	19	12.3	
23K to 26,999	86	25.2	44	28.4	
27K to 30,999	88	25.8	31	20.0	
31K to 34,999	57	16.7	27	17.4	
More than 35K	21	6.2	5	3.3	
Unknown	7	2.1	3	1.9	
Total	341	100.0	155	100.1	
Occupation:					
Engineer	85	24.9	47	30.3	83.21**
Engineering Technician	63	18.5	53	34.2	
Other	61	17.9	54	34.8	
Unknown	132	38.7	1	0.6	
Total	341	100.0	155	99.9	

*p < .05.
**p < .01.

Table 2
Results of First-order Factor Analyses

Analysis/Factor	Sample A				Sample B			
	N	Eigen-Value	% Total Variance	% Common Variance	N	Eigen-Value	% Total Variance	% Common Variance
General Attitudes--Module 2								
A. All items:	302				140			
1. General job satisfaction		5.38	30.6	56.9		4.53	26.1	46.7
2. Achievement motivation		1.61	11.3	17.0		1.93	12.5	20.0
3. Organizational commitment		1.31	9.2	13.9		0.75	6.7	7.8
4. Investment in current job		0.61	6.0	6.4		0.75	6.3	7.7
5. Job involvement		0.54	5.7	5.8		1.10	8.2	11.4
Total			62.8	100.0			59.8	93.6
Job Facets--Module 3								
A. Importance ratings:	337				154			
1. Importance of sense of accomplishment/freedom/growth		3.70	38.9	81.6		4.11	42.0	81.5
B. Satisfaction ratings:	331				153			
1. Satisfaction with sense of accomplishment/freedom/growth		4.44	43.8	71.2		3.92	39.6	68.6
2. Satisfaction with inter-personal outcomes		.91	11.4	14.7		1.08	13.2	19.0
Total			55.2	85.9			52.8	87.6
C. Likelihood ratings:	333				152			
1. Supervisory recognition for good work		4.61	50.2	84.6		4.18	46.0	80.3
2. Sense of accomplishment/growth for good work		0.84	12.7	15.4		1.03	14.8	19.7
Total			62.9	100.0			60.8	100.0
Task and Role Characteristics--Module 4								
A. Agreement on presence of job characteristics:	318				151			
1. Self-evaluation of performance		3.28	23.7	47.1		3.16	22.7	40.6
2. Job challenge		1.74	13.8	25.0		1.06	9.5	13.7
3. Self-control of work pace		0.83	8.7	11.9		2.28	17.1	29.3
Total			46.2	84.0			49.3	83.6
B. Ratings of job characteristics:	329				150			
1. Job importance		2.92	31.4	59.8		3.01	32.3	61.2
2. Necessity for cooperation and coordination		1.29	16.7	26.5		1.20	15.7	24.5
Total			48.1	86.3			48.0	85.7
C. Agreement on feelings toward job:	322				150			
1. Job meaningfulness		3.99	24.8	46.9		4.15	25.6	46.0
2. Fair workload		2.26	15.0	26.6		2.40	15.6	26.6
3. Sense of job responsibility		1.16	9.5	13.6		1.04	8.3	11.6
Total			49.3	87.1			49.5	84.2

Table 2 (Continued)

Analysis/Factor	Sample A				Sample B			
	N	Eigen- Value	% Total Variance	% Common Variance	N	Eigen- Value	% Total Variance	% Common Variance
Work Group Functioning--Module 5								
A. All items:	329				150			
1. Work group cohesion		4.70	37.4	73.2		4.12	33.0	59.2
2. Work group concord		1.12	11.5	17.5		1.25	11.9	18.0
3. Group decision making ^a		--	--	--		0.99	10.3	14.2
Total			48.9	90.7			55.2	91.4
Supervisory Behavior--Module 6								
A. All items:	310				143			
1. Consideration		16.67	43.7	70.5		2.73	8.1	11.3
2. Initiating structure		2.90	8.5	12.2		16.92	44.3	69.8
3. Production emphasis		1.36	4.5	5.7		1.25	4.2	5.2
4. Sensitivity		1.14	4.0	4.8		1.61	5.0	6.7
Total			60.7	93.2			61.6	93.0
Pay--Module 7								
A. Pay determinants:	330				152			
1. Individual determinants of pay		6.38	66.2	87.3		5.91	61.6	81.9
2. Other determinants of pay		0.93	11.7	12.7		1.31	15.9	18.1
Total			77.9	86.4			77.5	100.0
B. Pay characteristics:	331				149			
1. Satisfaction with pay		7.84	50.5	73.1		7.04	45.8	71.9
2. Fairness of pay		1.42	11.2	13.3		1.08	9.5	11.0
Total			61.7	86.4			55.3	82.9
Organizational Characteristics--Module 8								
A. Agreement on organizational characteristics:	331				151			
1. Lack of impediments to productivity		3.58	40.5	78.1		4.06	45.2	82.3
2. Facilitation of productivity		1.00	15.5	21.9		0.87	13.2	17.7
Total			56.0	100.0			58.4	100.0
B. Frequency of organizational characteristics:	326				147			
1. Good communication		3.72	42.5	85.6		3.48	40.4	82.9
Physical Characteristics of the Work Space--Module 9								
A. Agreement on presence of work space characteristics:	302				141			
1. Desirability of the immediate work space		4.74	40.0	78.0		4.36	37.1	60.3
B. Importance of work space characteristics:	327				147			
1. Importance of desirability of the immediate work space		4.43	38.0	71.9		5.59	46.8	87.6

^aThe first factor for Sample A was split into two factors for Sample B.

The number of items included in each factor analysis ranged from 10 to 39, with a median of 13. The number of respondents for whom complete data were available ranged from 302 to 337 for Sample A, with a median of 329; and from 140 to 154 for Sample B, with a median of 150. The ratio of respondents to variables ranged from 7.9 to 33.3 for Sample A, with a median of 25.2; and from 3.7 to 15.2 for Sample B, with a median of 11.3. Except for the analysis of supervisory behavior items (Module 6) for Sample B, all of the analyses met the 4:1 ratio of respondents to variables suggested by Catell (1952) as the minimum for an exploratory factor analysis.

The percentage of total variance accounted for by these analyses ranged from 38.0 to 77.9 for Sample A, with a median of 49.3; and from 37.1 to 77.5 for Sample B, with a median of 52.8. The percentages of common variance were much higher. For Sample A, they ranged from 71.9 to 100.0 percent with a median of 86.4 percent; and for Sample B, from 66.3 to 100.0 percent, with a median of 85.7 percent. Thus, these analyses account for respectable amounts of total and common variance.

General Attitudes--Module 2

Among the general attitude items, five factors emerged. A visual inspection of the factor loadings (Table B-1) indicated that the content of the five factors was the same across samples. The first two factors, general job satisfaction and achievement motivation, emerged first and second respectively in both samples. In terms of eigenvalues, the third factor to emerge in Sample A, organizational commitment, was the fourth to emerge in Sample B. The third to emerge in Sample B, job involvement, was the fifth to emerge in Sample A. Consequently, all five factors in both samples were retained for further analysis, even though only three of the five in each sample had eigenvalues greater than 1.00.

Job Facets--Module 3

For the items in the job facets module, three analyses were performed for each sample. The first was performed on importance ratings for a set of job facets; and the second, on satisfaction ratings for the same set of job facets. The third was performed on likelihood ratings that certain outcomes would occur if the respondent performed his/her job especially well.

For the importance items, only a single factor, importance of sense of accomplishment/freedom/growth, emerged in both samples. Since the factor loadings (Table B-2) indicated that the content of this factor was the same across samples, it was retained for further analysis.

For the satisfaction items, two factors, satisfaction with sense of accomplishment/freedom/growth and satisfaction with interpersonal outcomes, emerged in both samples. Since the factor loadings indicated that the content of these factors were the same across samples and since both had an eigenvalue greater than 1.00 in Sample B, both were retained for further analysis.

For the likelihood items, two factors, supervisory recognition for good work and sense of accomplishment/growth for good work, emerged in both samples. Since the factor loadings indicated that the content of these factors were the same across samples and since both had eigenvalues greater than 1.00 in Sample B, both were retained for further analysis.

Task and Role Characteristics--Module 4

For the items in the task and role characteristics module, three analyses were performed for each sample. The first was performed on the agreement ratings that certain characteristics were present in the respondent's job. The second was performed on a set of job characteristics, each of which was rated on its own behaviorally anchored scale. The third analysis was performed on the agreement ratings for a set of statements about how the respondent felt about his/her job.

In the analysis on the agreement on presence of job characteristics, three factors emerged in both samples. The factor loadings (Table B-3) indicated that the content of these factors was the same across samples. The first factor to emerge in both samples was self-evaluation of performance. The second factor to emerge in Sample A, job challenge, corresponded to the third factor to emerge in Sample B, self-control of work space, and vice versa. Since all three factors had an eigenvalue greater than 1.00 in Sample B, all were retained for further analysis.

In the analysis of ratings of job characteristics, two factors, job importance and necessity for cooperation and coordination, emerged in both samples. The factor loadings indicated that the content of these factors was the same across samples. Since both factors in both samples had an eigenvalue greater than 1.00, both were retained for further analysis. In the analysis on agreement of feelings toward the job, three factors, job meaningfulness, fair workload, and sense of job responsibility, emerged in both samples. Since the factor loadings indicated that the content of these factors was the same across samples and since all three factors in both samples had eigenvalues greater than 1.00, all were retained for further analysis.

Work Group Functioning--Module 5

For the work group functioning items, one analysis was performed. Two factors emerged in Sample A, and three emerged in Sample B. The factor loadings of the items (Table B-4) indicated that the content of the second factor, work group concord, was the same for both samples. The items that loaded onto the first factor in Sample A, however, were split between the first, work group cohesion, and third, group decision making, factors in Sample B. Consequently, the three factors that emerged in Sample B were retained for further analysis.

Supervisory Behavior--Module 6

For the items in the supervisory behavior module, one analysis was performed for each sample. Four factors emerged in both samples. A visual inspection of the factors (Table B-5) indicated that the first factor to emerge in Sample A, consideration, corresponded to the second factor to emerge in Sample B, while the first factor to emerge in Sample B, initiating structure, corresponded to the second factor to emerge in Sample A. Likewise, the third factor to emerge in Sample A, production emphasis, corresponded to the fourth factor to emerge in Sample B, while the third factor to emerge in Sample B, sensitivity, corresponded to the fourth factor to emerge in Sample A. Since all four factors in both samples had eigenvalues greater than 1.00, all four were retained for further analysis.

Pay--Module 7

For the items in the pay module, two analyses were performed for each sample. The first was performed on the determinants of pay level; and the second, on pay characteristics.

Among the pay determinants items, two factors, individual determinants of pay and other determinants of pay, emerged in both samples. Since the factor loadings (Table B-6) indicated that the content of these factors was the same across samples and since both had an eigenvalue greater than 1.00 in Sample B, both were retained for further analysis.

Similarly, for the pay characteristics items, two factors, satisfaction with pay and fairness of pay, emerged in both samples. Since the factor loadings indicated that these factors had the same content across samples and since both had an eigenvalue greater than 1.00 in both samples, both were retained for further analysis.

Organizational Characteristics--Module 8

For the items in the organizational characteristics module, two analyses were also performed. The first was performed on the agreement ratings for a set of organizational characteristics; and the second, on the frequency ratings for a different set of organizational characteristics. In the first analysis, two factors, lack of impediments to productivity and facilitation of productivity, emerged in both samples. Since the factor loadings (Table B-7) indicated that these two factors had the same content in both samples and since both had an eigenvalue greater than 1.00 in Sample A, both were retained for further analysis. In the second analysis, one factor, group communication, emerged in both samples. Since the content of this factor was the same in both samples and it had an eigenvalue greater than 1.00 in both samples, it was retained for further analysis.

Physical Characteristics of the Work Space--Module 9

For the items in the physical characteristics of the work space module, two analyses were performed. The first was performed on agreement of the presence of a set of work space characteristics, each rated on its own semantic differential scale; and the second, on the importance ratings for the same set of characteristics. In the first analysis, one factor, desirability of the immediate work space, emerged in both samples (Table B-8). This factor was retained for further analysis, since it had the same content as well as an eigenvalue greater than 1.00 in both samples. In the second analysis, one factor, importance of desirability of the immediate work space, emerged in both samples. This factor was also retained for further analysis, since it had the same content as well as an eigenvalue greater than 1.00 in both samples.

RELATE Analyses

Since 11 of the 15 analyses detailed above produced multiple factors, 11 RELATE analyses were performed. RELATE assesses the statistical congruence between the factor structures that emerged in each sample. The factor loadings after varimax rotation constitute the raw data for this procedure. RELATE generates a matrix whose rows and columns represent the factors that emerged in the two samples respectively. The cells of this matrix contain coefficients that indicate the degree of similarity of each row factor to each column factor. These coefficients can be interpreted as if they were correlations.

The results of the RELATE findings are shown in Table 3. The factors that emerged in Sample A are listed along the rows of each matrix; and those that emerged in Sample B, along the columns. In both cases, the factors are listed in descending order by the size of their eigenvalues. The strongest correlation in each row is underlined to indicate which row factor corresponds with what column factor.

The first matrix shows that the general attitude factors for the two samples are very similar. As noted earlier, the first two factors to emerge in Sample A corresponded almost perfectly to the first two to emerge in Sample B (r 's = .993 and .988 respectively). Similarly, the third and fourth factors to emerge in Sample A corresponded almost exactly to the fourth and fifth factors to emerge in Sample B (r 's = .988 and .994). The fifth factor to emerge in Sample A corresponded almost exactly to the third to emerge in Sample B (r = .995). The rest of the coefficients in the matrix were quite small (e.g., the largest r = .110), which indicates an almost exact one-to-one correspondence between the two factor structures.

Except for the work group functioning analysis, the remaining 10 RELATE analyses showed results similar to those for the general attitudes. In every case, each factor that emerged in Sample A corresponded almost exactly to one and only one factor from Sample B. The coefficients for corresponding factors ranged from .931 to 1.000, with a median of .998. The remaining coefficients in these matrices ranged from -.359 to .361, with a median of .000. On the whole, these results indicate almost exact one-to-one correspondence between the factor structures for the two samples.

For the work group functioning items, two factors emerged in Sample A, and three in Sample B. As noted earlier, the second factor to emerge in Sample A corresponded quite closely to the second factor to emerge in Sample B (r = .948). The first factor to emerge in Sample A, however, was split between the first and third factors to emerge in Sample B (r 's = .824 and .532 respectively). Thus, the RELATE analyses strongly confirm the conclusions drawn from the visual inspection of factor loadings mentioned above.

Second-order Factor Analyses

To assess the reliability of the 34 first-order scales created for the 34 factors emerging from the 15 factor analyses, Cronbach's Alphas were calculated for each scale for both samples separately. For Sample A, the alphas ranged from .63 to .95, with a median of .79; for Sample B, the alphas ranged from .54 to .95, with a median of .78. Except for one scale for Sample B, all of the scales exceeded the .60 reliability criterion recommended by Nunally (1978) for research work.

To reduce the large number of first-order scales to a smaller number of basic dimensions, a second-order factor analysis was performed on the 34 first-order scales for the combined sample. Since the complete data were available for 329 respondents, the ratio of respondents to variables was 9.7. Table 4, which provides the results of the second-order analysis, shows that five factors with eigenvalues greater than 1.00 were isolated. These factors accounted for 52.9 and 85.1 percent of the total and common variances respectively.

Table 5 provides the factor loadings for these five factors. For each factor, the scores of the first-order scales that loaded significantly on the factor were combined into a second-order scale. As with the first-order scales, the reliability of the five second-order scales was assessed by calculating a Cronbach's alpha for each scale. These alphas ranged from .64 to .87; thus, all of these scales exceeded the .60 reliability criterion recommended by Nunally (1978) for research purposes.

Table 3
Matrices of Factor Structures for Samples A and B

Sample A Analysis/Factor	Sample B Analysis/Factor				
	1	2	3	4	5
General Attitudes--Module 2					
A. All items:					
1	0.993	-0.100	-0.029	-0.036	-0.032
2	0.110	0.988	0.027	0.104	0.010
3	0.029	-0.110	0.069	0.988	0.078
4	0.030	-0.006	0.060	-0.084	0.994
5	0.022	-0.022	0.995	-0.067	-0.066
Job Facets--Module 3					
B. Satisfaction ratings:					
1	1.000	0.004	-	-	-
2	-0.004	1.000	-	-	-
C. Likelihood ratings:					
1	0.998	-0.058	-	-	-
2	0.058	0.998	-	-	-
Task and Role Characteristics--Module 4					
A. Agreement on presence of job characteristics:					
1	0.933	0.040	-0.359	-	-
2	0.361	-0.058	0.931	-	-
3	-0.016	0.998	0.068	-	-
B. Ratings of job characteristics:					
1	0.996	0.092	-	-	-
2	-0.092	0.996	-	-	-
C. Agreement on feelings toward job:					
1	0.999	0.054	-0.008	-	-
2	-0.054	0.999	0.012	-	-
3	0.009	-0.011	1.000	-	-
Work Group Functioning--Module 5					
A. All items:					
1	0.824	-0.195	0.532	-	-
2	0.018	0.948	0.319	-	-
Supervisory Behavior--Module 6					
A. All items:					
1	0.045	0.972	0.228	0.009	-
2	0.990	-0.024	-0.090	-0.109	-
3	0.107	-0.010	-0.019	0.994	-
4	0.084	-0.231	0.969	0.008	-
Pay--Module 7					
A. Pay determinants:					
1	0.998	0.062	-	-	-
2	-0.062	0.998	-	-	-
B. Pay satisfaction:					
1	0.999	-0.041	-	-	-
2	0.041	0.999	-	-	-
Organizational Characteristics--Module 8					
A. Agreement on organizational characteristics:					
1	0.989	0.150	-	-	-
2	-0.150	0.989	-	-	-

Table 4
Results of Second-order Factor Analysis

Factor		Eigen- Value	% Total Variance	% Common Variance
1.	Intrinsic job satisfaction	8.59	26.4	45.9
2.	Supervision	3.21	10.8	17.2
3.	Interpersonal climate	1.70	6.2	9.1
4.	Organizational climate	1.39	5.3	7.4
5.	Pay and habitability satisfaction	1.02	4.2	5.5
Total			52.9	85.1

Table 5
Second-order Factor Loadings

First-order Scales ^a	Factors ^b				
	1	2	3	4	5
Job importance (TRC-B)	.76	-	-	-	-
Job meaningfulness (TRC-C)	.73	-	-	-	-
Self-evaluation of performance (TRC-A)	.66	-	-	-	-
Job challenge (TRC-A)	.56	-	-	-	-
Satisfaction with sense of accomplishment/ freedom/growth (JF-B)	.45	-	-	-	-
General job satisfaction (GA)	.45	-	-	-	-
Sense of accomplishment/growth for good work (JF-C)	.43	-	-	-	-
Achievement motivation (GA)	.42	-	-	-	-
Consideration (SB)	-	.88	-	-	-
Initiating structure (SB)	-	.74	-	-	-
Sensitivity (SB)	-	.67	-	-	-
Supervisory recognition for good work (JF-C)	-	.62	-	-	-
Group decision making (WGF)	-	-	.63	-	-
Work group concord (WGF)	-	-	.63	-	-
Work group cohesion (WGF)	-	-	.61	-	-
Satisfaction with interpersonal outcomes (JF-B)	-	-	.40	-	-
Good communication (OC-B)	-	-	-	.70	-
Lack of impediments to productivity (OC-A)	-	-	-	.66	-
Necessity for cooperation and coordination (TRC-B)	-	-	-	.50	-
Facilitation of productivity (OC-A)	-	-	-	.40	-
Satisfaction with pay (P-B)	-	-	-	-	.68
Fairness of pay (P-B)	-	-	-	-	.67
Desirability of the immediate work space (PC-A)	-	-	-	-	.51
Importance of desirability of the immediate work space (PC-B)	-	-	-	-	-.42

^aThe letters in parentheses refer to the analysis from which the factor emerged.

^bFactors are defined in Table 4.

DISCUSSION AND CONCLUSIONS

First-order Scales

General Attitudes

Previous research (e.g., Lawler & Hall, 1970) has identified three central attitudes toward work: satisfaction, intrinsic motivation, and job involvement. Each of these attitudes can be assessed by one of the GA scales: satisfaction by the general job satisfaction scale, intrinsic motivation by the achievement motivation scale, and job involvement by the job involvement scale.

The ability to assess job satisfaction is important for several reasons. Job satisfaction correlates with the rate of turnover (Porter & Steers, 1973), the level of stress, the number of physical and mental health problems reported by employees, and the number of grievances filed by employees (Locke, 1976). While satisfaction has a direct effect on the cost of doing business, it has no direct effect on productivity (Locke, 1976; Lawler & Hall, 1970). In contrast, intrinsic motivation does have a direct effect on productivity. According to Lawler (1969), intrinsic motivation reflects the degree to which an employee is motivated to do well because of some subjective rewards or feelings that he expects to receive for good performance. Consequently, this attitude does correlate modestly with self-reported effort and performance on the job (Lawler & Hall, 1970). Similarly, job involvement, which reflects the degree to which an employee is psychologically identified with his job and the importance of the work to his/her total self-image, also has an impact on productivity. Not surprisingly, there is also a modest relation between job involvement and self-reported effort.

Two of the remaining GA attitude scales can be used to assess organizational commitment and the degree of investment in the job. The organizational commitment construct includes acceptance of organizational values and goals, a willingness to exert high effort on behalf of the organization, and a desire to remain in the organization (Salancik, 1977). Some research efforts claim that organizational commitment is a better predictor of turnover than is satisfaction (Porter, Steers, Mowday, & Boulian, 1974; Porter, Crampon, & Smith, 1976; Royle & Robertson, 1980). However, Farkas (1981) found that both satisfaction and commitment make equal, independent contributions to the prediction of turnover.

The final GA scale can be used to assess the degree to which an employee feels locked into his/her job. This perception, which reflects seniority and job security, is an important mediating variable that may be good or bad, depending on the circumstances. For employees who are intrinsically satisfied with their work, a high investment is good. For employees who are dissatisfied with their work, a high investment is bad. Such employees have so much invested that they cannot seek a new job without serious loss of pension, seniority, job security, status, etc. Being heavily invested in an unsatisfactory job makes the dissatisfaction even harder to bear.

Job Facets

The intrinsic versus extrinsic distinction is an important construct for categorizing job outcomes (Broedling, 1977). According to this outcome, intrinsic outcomes (e.g., job challenge) are inherent in the work itself, while extrinsic outcomes (e.g., pay) are not. While some outcomes are ambiguous, there is a rough agreement concerning which outcomes fall into each category.

The pool of items in the JF module included a representative sample of commonly accepted intrinsic and extrinsic outcomes. It is interesting to note that, for the analysis of the importance ratings, only a single factor, consisting solely of intrinsic outcomes (i.e., importance of sense of accomplishment/freedom/growth) emerged. For the analysis of the satisfaction ratings, two factors emerged: an intrinsic factor comparable to the importance factor (i.e., satisfaction with sense of accomplishment/freedom/growth) and an extrinsic factor that consisted of interpersonal outcomes from co-workers.

While the pool included items of importance and satisfaction outcomes that dealt with material outcomes (e.g., pay, benefits, job security), no factors emerged for these outcomes. Fortunately, these material outcomes were also assessed in other questionnaire modules.

The final analysis of the JF module assessed the likelihood of receiving various intrinsic and extrinsic outcomes for good performance. Expectancy theorists (e.g., Vroom, 1964; Mitchell, 1974) have demonstrated that job performance is motivated by performance contingent outcomes. The more clearly people perceive a positive connection between their level of performance and their outcomes, the higher their level of performance. Two factors emerged for these likelihood ratings: (1) an intrinsic factor (i.e., sense of accomplishment/growth for good work), which assessed the instrumentality of good work for self-mediated rewards, and (2) an extrinsic factor (i.e., supervisory recognition for good work), which assessed the instrumentality of good work for obtaining various supervisory-mediated, monetary, and social rewards.

Task and Role Characteristics

The TRC module produced eight scales to assess theoretically important job characteristics. The scales produced are similar to those on the job diagnostic survey (JDS) (Hackman & Oldham, 1975), a widely used, standardized instrument for job diagnosis. The JDS consists of seven scales for assessing job dimensions (i.e., skill variety, task identity, task significance, autonomy, feedback from the job itself, feedback from agents, and dealing with others) and three scales for assessing psychological states (i.e., experienced meaningfulness of the work, experienced responsibility for the work, and knowledge of results). The correspondence between JDS and TRC scales is straightforward, as shown in Table 6. Only two JDS scales had no direct TRC counterpart--feedback from agents and knowledge of results. Thus, the TRC scales provide measures of many of the dimensions considered important by other researchers for job assessments.

Table 6
Correspondence Between TRC and JDS Scales

TRC Scale	Corresponding JDS Scale
Self-evaluation of performance	Feedback from the job itself
Job challenge	Skill variety
Self-control of work pace; fair workload	Autonomy
Job importance	Task identity; task significance
Necessity for cooperation and coordination	Dealing with others
Job meaningfulness	Experienced meaningfulness of the work
Sense of job responsibility	Experienced responsibility for the work

Work Group Functioning

Three WGF scales were generated to assess work group climate. The first two assess work group cohesion and concord: When cohesion and concord are high, the group will be more effective in achieving its goals (Freedman, Sears, & Carlsmith, 1981). If the group's goals and norms are congruent with those of the organization, the more cohesive group will be more productive. If the group's goals and norms are at variance with those of the organization, the more cohesive group will be less productive.

The group decision-making scale measures the degree to which supervisors employ a leadership style characterized as participative. Participative decision making is an important situational characteristic if employees are to realize intrinsic as well as extrinsic satisfaction from the job (Broedling, 1977). Taken together, these three scales provide information on important moderator variables within an organization.

Supervisory Behavior

The four SB scales generated replicated the four basic dimensions originally isolated in the Ohio State Leadership Studies (Hemphill, 1950; Halpin & Winer, 1952): consideration, initiating structure, production emphasis, and sensitivity. According to Gibb (1969), these dimensions are characterized as follows:

1. Consideration--Warmth of personal relations, mutual trust, readiness to explain actions, willingness to listen to subordinates, and allowing subordinates to participate in decision making.
2. Initiating Structure--Maintaining definite standards of performance, ensuring that employees follow standard operating procedures, and assigning employees to particular tasks.
3. Production emphasis--Encouraging overtime work, stressing being ahead of competing work groups, and needling employees to greater efforts.
4. Sensitivity--Not blaming subordinates who make mistakes and not scapegoating subordinates.

Thus, the SB scales provide the means for assessing these essential characteristics of supervisory style.

Pay

According to expectancy theorists (e.g., Mitchell, 1974), job performance is motivated by performance contingent outcomes. Among the extrinsic motivators, pay is the primary outcome. One of the two scales generated by the analysis of pay determinants (i.e., individual determinants of pay) assesses the contingency, or instrumentality, of characteristics over which the individual has control (e.g., effort, skill level, education); and the other (i.e., other determinants of pay), the instrumentality for pay of characteristics over which the individual has little or no control (e.g., overall labor costs). The effectiveness of pay as a performance motivator depends on the relative instrumentality of individual versus other determinants of pay.

The two scales generated by the analysis of pay characteristics assess the satisfaction with and the fairness of pay. The pay satisfaction scale complements the scales for

satisfaction with intrinsic and interpersonal outcomes previously derived in the JF module. The pay fairness scale assesses pay equity within the organization. Theorists (e.g., Adams, 1965) have demonstrated that pay inequities can have serious negative impacts on productivity, morale, and turnover. Thus, the four P scales should be adequate for an initial assessment of any organizational problems in the area of pay administration.

Organizational Characteristics

Two of the three OC scales generated deal with general productivity perceptions. One assesses impediments to productivity; and the other, whether employees perceive management as facilitating productivity. While these two perceptions are interrelated, they are largely independent; an organization that does not impede productivity may still not actively facilitate productivity. The third scale deals with the quality of work-related communication. Poor horizontal and vertical communication within the organization can also have a adverse impact on productivity.

Even though these scales are fairly global, they should be sensitive enough to flag the presence of bureaucratic impediments to productivity. Once flagged, more sensitive techniques (e.g., White, Atwater, & Mohr, 1981) can be used to pinpoint specific impediments and suggest interventions to remove them.

Physical Characteristics of the Work Space

The two PC scales generated assess the desirability and importance of the characteristics of the immediate work space. These scales are of interest for two reasons. First, since much of the federal industrial infrastructure dates from before the end of the second world war, much of it is antiquated and less desirable than its private sector counterparts. Thus, poor habitability may be having serious impacts on productivity, morale, and turnover. Second, dissatisfaction with the characteristics of the work space can also act as a displaced indicator of dissatisfaction with other aspects of the organization (e.g., distrust of management) (Locke, 1976).

Second-order Scales

The five basic dimensions listed below underlay the first-order scales (Table 5):

1. Intrinsic job satisfaction--This dimension, which reflects the intrinsic interest inherent in the job, can be assessed through the sum of eight first-order scales: two GA scales (general job satisfaction and achievement motivation), two JF scales (satisfaction with sense of accomplishment/freedom/growth and sense of accomplishment/growth for good work), and four TRC scales (job importance, job meaningfulness, self-evaluation of performance, and job challenge).

2. Supervision--This dimension reflects the quality of supervision and can be assessed through the sum of four first-order scales: three SB scales (consideration, initiating structure, and sensitivity) and one JF scale (supervisory recognition for good work).

3. Interpersonal climate--This dimension reflects work group climate and can be assessed through the sum of four first-order scales: three WGF scales (group decision making, work group concord, and work group cohesion) and one JF scale (satisfaction with interpersonal outcomes).

4. Organizational climate--This dimension can be assessed through the sum of four first-order scales: three OC scales (good communication, lack of impediments to productivity, and facilitation of productivity) and one TRC scale (necessity for cooperation and coordination).

5. Pay and habitability satisfaction--This dimension reflects material satisfaction and can be assessed through the sum of four first-order scales: two P scales (satisfaction with pay and fairness of pay) and two PC scales (desirability of the immediate work space, characteristics of the work space, and importance of characteristics of the work spaces).

The scores on the five dimensions, as well as those for the scales that contributed to these dimensions, can be very useful in organizational diagnosis. For example, if intrinsic job satisfaction is low, job redesign might be considered. If supervision is low, several actions might be taken. Human relations training might be used to improve supervisory consideration and sensitivity. Explicit goal setting might be employed to improve supervisory initiating structure, while better contingency management might be applied to improve the connection between employee performance and supervisory-mediated rewards. If work group climate is low, team building to increase cohesion, conflict resolution training to improve concord, or changes in management style to increase participative management might be considered. If organizational climate is low, a concerted effort to identify and remove impediments to productivity might be tried. Finally, if material satisfaction is low, an infusion of money to increase pay or to improve work space habitability or policy changes to improve intra-organization equity might be considered. Thus, the scores on these five dimensions can direct managers to specific interventions to improve organization functioning and quality of work life.

RECOMMENDATIONS

1. Further research is needed to assess (a) the temporal stability of the scales and (b) the predictive validity of these scales for relevant criteria (e.g., turnover, productivity, etc.).

2. The scales should be used in a variety of organizational development projects (e.g., to diagnose organizational problems, to suggest interventions, and then to assess the effectiveness of those interventions). Such studies will establish the construct validity of the scales as well as their practical utility.

3. The scales should be administered to a larger, more representative sample of Navy civilian employees so that norms can be developed.

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APPENDIX A
STUDY QUESTIONNAIRE

GENERAL INSTRUCTIONS

Most of the questions ask that you check one of several numbers that appear on a scale to the right of item. You are to choose one number that best matches the description of how you feel about the item. For example, if you were asked how much you agree with the statement, "I enjoy the weather in this area," and you feel that you do agree, you would check the number under "Agree" like this:



I enjoy the weather in this area. (1) (2) (3) (4) (5) (6) (7)

Note that the scale descriptions may be different in different parts of the questionnaire. For example, they may ask not whether you agree or disagree but whether you are satisfied or dissatisfied or whether you think something is likely or not likely to happen, etc.

So, be sure to read the special instructions that appear in the boxes on each page. Be sure to read the scale descriptions before choosing your answers.

* * * * *

Questionnaire Number:

1-3

Social Security Number

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4-12

MODULE 0 - DEMOGRAPHICS

The following information is needed to help us with the statistical analyses of the data. This information will allow comparisons among different groups of employees and comparisons with similar employees in other organizations.

All of your responses are strictly confidential; individual responses will not be seen by anyone within this organization. We appreciate your help in providing this important information.

PLEASE ANSWER EACH OF THE QUESTIONS BELOW BY MARKING THE NUMBER NEXT TO THE DESCRIPTION WHICH BEST FITS YOU OR BY WRITING IN THE CORRECT INFORMATION.

- | | |
|---|---|
| <p>1. Are you - (check one) 1:13</p> <p>[1] Female</p> <p>[2] Male</p> <p>2. What is your education level (indicate highest completed)? 1:14</p> <p>[1] Some elementary school (grades 1-7)</p> <p>[2] Completed elementary school (8 grades)</p> <p>[3] Some high school (grades 9-11)</p> <p>[4] Graduated from high school or G.E.D.</p> <p>[5] Some college or technical training beyond high school (1-3 years)</p> <p>[6] Graduated from college (B.A., B.S., or other Bachelor's degree)</p> <p>[7] Some graduate school</p> <p>[8] Graduate degree (Masters, Ph.D., M.D., etc.)</p> <p>3. What is your marital status? 1:15</p> <p>[1] Married</p> <p>[2] Widowed</p> <p>[3] Separated</p> <p>[4] Divorced</p> <p>[5] Never married</p> | <p>4. Are you - (check one) 1:16</p> <p>[1] Black</p> <p>[2] Asian</p> <p>[3] American Indian</p> <p>[4] Spanish surnamed American</p> <p>[5] White</p> <p>[6] None of the above</p> <p>5. How old were you on your last birthday? 1:17-18</p> <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="border: 1px solid black; width: 40px; height: 25px; margin-right: 5px;"></div> <div style="border: 1px solid black; width: 40px; height: 25px; margin-right: 5px;"></div> <div>years</div> </div> <p>6. What was the size of the community in which you spent the largest portion of your life up to the time you finished high school? 1:19</p> <p>[1] On a farm or ranch</p> <p>[2] In a rural area, not on a farm or ranch</p> <p>[3] A suburban town near a city</p> <p>[4] A small city (less than 100,000)</p> <p>[5] A large city (more than 100,000)</p> <p>7. Is your income the primary source of financial support for your immediate family? 1:20</p> <p>[1] Yes</p> <p>[2] No</p> |
|---|---|

8. How many dependents do you have
(others who depend on your income
for their financial support)?

1:21-22

dependents

9. When did you first come to work
for NARF, Alameda (please use a
number for the month, for example,
6 for June or 12 for December)?

1:23-26

, 19

Month Year

10. When did you start your present job
in this factory (please use a number
for the month)?

1:27-30

, 19

Month Year

11. Which of the following salary ranges is
nearest to your total income from your
job last year?

1:31

- [1] Under \$15,000
- [2] \$15,000-18,999
- [3] \$19,000-22,999
- [4] \$23,000-26,999
- [5] \$27,000-30,999
- [6] \$31,000-34,999
- [7] \$35,000-38,999
- [8] \$39,000-42,999
- [9] \$43,000 or more

12. My organizational entity designator
is

1:32-36

Department
Division
Branch
Section
Shop

13. My job classification is

1: 37-38

- [1] Aeronautical Engineer
- [2] Electrical/Electronic Engineer
- [3] Environmental Engineer
- [4] Industrial Engineer
- [5] Mechanical Engineer
- [6] Other Engineer
- [7] Engineering Technician
- [8] Mechanic
- [9] Planner & Estimator
- [10] Programmer

MODULE 1 – GENERAL ATTITUDES

The next questions are about you and your job. When answering, keep in mind the kind of work you do and the experiences you have had working here. Follow the directions given in the boxes at the beginning of each set of questions.

1. HERE ARE SOME STATEMENTS ABOUT YOU AND YOUR JOB. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree nor Disagree	Slightly Agree	Agree	Strongly Agree	
a. ✓	I get a feeling of personal satisfaction from doing my job well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:13
b. ✓	It would be very hard for me to leave my job even if I wanted to.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:14
c. ✓	I am very much personally involved in my work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:15
d. ✓	I work hard on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:16
e. ✓	If I had the chance, I would take a different job within this organization.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:17
f. ✓	I dread the thought of what might happen if I quit my job without having another one lined up.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:18
g. ✓	All in all, I am satisfied with my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:19
h. ✓	I will probably look for a new job in the next year.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:20
i. ✓	In general, I don't like my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:21
j. ✓	What happens to this organization is really important to me.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:22
k. ✓	Doing my job well gives me a good feeling.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:23
l. ✓	I often think about quitting.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:24
m. ✓	I don't care what happens to this organization as long as I get my paycheck.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:25
n. ✓	I feel personally responsible for the work I do on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:26
o. ✓	In general, I like working here.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:27
p. ✓	I feel bad when I do a poor job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:28
q. ✓	I live, eat, and breathe my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:29
r. ✓	The most important things which happen to me involve my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:30
s. ✓	I have too much at stake in my job to change jobs now.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	2:31

2. PLEASE ANSWER THE FOLLOWING QUESTIONS.

- | | | Not At All Likely | | Somewhat Likely | | Quite Likely | | Extremely Likely | |
|------|---|-------------------|-----|-----------------|-----|--------------|-----|------------------|------|
| a. ✓ | How likely is it that you could find a job with another employer with about the same pay and benefits you now have? ✓ | [1] | [2] | [3] | [4] | [5] | [6] | [7] | 2:32 |
| b. ✓ | How likely is it that you will actively look for a new job in the next year? | [1] | [2] | [3] | [4] | [5] | [6] | [7] | 2:33 |
| c. ✓ | How likely is it that you will retire during the next year? | [1] | [2] | [3] | [4] | [5] | [6] | [7] | 2:34 |
| d. ✓ | How likely is it that you will retire during the next three years? | [1] | [2] | [3] | [4] | [5] | [6] | [7] | 2:35 |

MODULE 2 – JOB FACETS

So far you have been asked questions about your job. This next section asks how you think and feel about certain specific parts of your work.

1. DIFFERENT PEOPLE WANT DIFFERENT THINGS FROM THEIR WORK. HERE IS A LIST OF THINGS A PERSON COULD HAVE ON HIS OR HER JOB. HOW IMPORTANT IS EACH OF THE FOLLOWING TO YOU?

HOW IMPORTANT IS (ARE) . . .

Moderately Important or Less

Quite Important

Extremely Important

- | | | | | | | | | | |
|----|---|-----|-----|-----|-----|-----|-----|-----|------|
| a. | ... the fringe benefits you receive? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:13 |
| b. | ... the friendliness of the people you work
with? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:14 |
| c. | ... the amount of freedom you have on
your job? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:15 |
| d. | ... the chances you have to learn new things? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:16 |
| e. | ... the respect you receive from the people
you work with? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:17 |

HOW IMPORTANT IS (ARE) . . .

- | | | | | | | | | | |
|----|---|-----|-----|-----|-----|-----|-----|-----|------|
| f. | ... the chances you have to accomplish something worthwhile? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:18 |
| g. | ... the amount of pay you get? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:19 |
| h. | ... the chances you have to do something that makes you feel good about yourself as a person? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:20 |
| i. | ... the way you are treated by the people you work with? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:21 |
| j. | ... the chances you have to take part in making decisions? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:22 |
| k. | ... the amount of job security you have? | [3] | [4] | [5] | [6] | [7] | [8] | [9] | 3:23 |

2. IN THE QUESTION YOU JUST ANSWERED YOU RATED THE IMPORTANCE OF DIFFERENT ASPECTS OF YOUR WORK.

HERE YOU ARE BEING ASKED SOMETHING DIFFERENT. IN THIS QUESTION, PLEASE INDICATE HOW SATISFIED YOU ARE WITH EACH OF THE FOLLOWING ASPECTS OF YOUR JOB.

HOW SATISFIED ARE YOU WITH ...

	Very Dissatisfied	Dissatisfied	Slightly Dissatisfied	Neither Satisfied nor Dissatisfied	Slightly Satisfied	Satisfied	Very Satisfied	
a. ✓ ... the fringe benefits you receive?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:24
b. ✓ ... the friendliness of the people you work with?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:25
c. ✓ ... the amount of freedom you have on your job?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:26
d. ✓ ... the chances you have to learn new things?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:27
e. ✓ ... the respect you receive from the people you work with?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:28

HOW SATISFIED ARE YOU WITH ...

f. ✓ ... the chances you have to accomplish something worthwhile?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:29
g. ✓ ... the amount of pay you get?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:30
h. ✓ ... the chances you have to do something that makes you feel good about yourself as a person?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:31
i. ✓ ... the way you are treated by the people you work with?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:32
j. ✓ ... the chances you have to take part in making decisions?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:33
k. ✓ ... the amount of job security you have?	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:34

3. HERE ARE SOME THINGS THAT COULD HAPPEN TO PEOPLE WHEN THEY DO THEIR JOBS ESPECIALLY WELL. HOW LIKELY IS IT THAT EACH OF THESE THINGS WOULD HAPPEN IF YOU PERFORMED YOUR JOB ESPECIALLY WELL?

	Not At All Likely	Somewhat Likely	Quite Likely	Extremely Likely	
a. You will get a bonus or pay increase.	[1]	[2]	[3]	[4]	3:35
b. ✓ You will feel better about yourself as a person.	[1]	[2]	[3]	[4]	3:36
c. ✓ You will have an opportunity to develop your skills and abilities.	[1]	[2]	[3]	[4]	3:37

HOW LIKELY IS IT . . .

		Not At All Likely		Somewhat Likely		Quite Likely		Extremely Likely	
d.	... You will be given chances to learn new things.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:38
e.	... You will be promoted or get a better job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:39
f.	... You will get a feeling that you've accomplished something worthwhile.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:40
g.	... You will get special recognition or feedback from your supervisor.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:41
h.	... Your good work will be reflected in your annual performance appraisal.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:42
i.	... Your supervisor will remember your work when considering you for special training.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:43
j.	... Your supervisor will see to it that the division head and/or department head knows of your accomplishments.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	3:44

MODULE 3 – TASK AND ROLE CHARACTERISTICS

The next questions are about you and your job. When answering, please keep in mind the kind of work you do and the experiences you have had working here. Follow the directions given in the boxes at the beginning of each set of questions.

1. HERE ARE SOME STATEMENTS WHICH DESCRIBE JOBS. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH STATEMENT AS A DESCRIPTION OF YOUR JOB?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	I often have to deal with new problems on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:13
b.	A lot of people can be affected by how well I do my work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:14
c.	I can see the results of my own work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:15
d.	My job allows me to control my own work pace.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:16
e.	Just doing the work required by my job gives me many chances to figure out how well I am doing.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:17
f.	On my job, I produce a whole product or perform a complete service.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:18
g.	It takes a long time to learn the skills required to do my job well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:19
2.	What is the level of education you feel is needed by a person in your job?								4:20
	[1] Some elementary school (grades 1–7)								
	[2] Completed elementary school (8 grades)								
	[3] Some high school (9–11 years)								
	[4] Graduated from high school or G.E.D.								
	[5] Some college or technical training beyond high school (1–3 years)								
	[6] Graduated from college (B.A., B.S., or other bachelors degree)								
	[7] Some graduate school								
	[8] Graduate degree (Masters, Ph.D., M.D., etc.)								

3. HERE ARE SOME STATEMENTS WHICH DESCRIBE JOBS. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH STATEMENT AS A DESCRIPTION OF YOUR JOB?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	I do not have enough training to do my job well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:21
b.	On my job, I often have to handle surprising or unpredictable situations.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:22
c.	On my job, most of my tasks are clearly defined.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:23
d.	I get to do a number of different things on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:24
e.	I determine the speed at which I work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:25
f.	I have more than enough training and skills to do my job well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:26
g.	My job requires that I do the same things over and over.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:27
h.	My job is so simple that virtually anybody could handle it with little or no initial training.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:28
i.	I usually know whether or not my work is satisfactory on this job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:29

The next questions ask you to describe the JOB ON WHICH YOU WORK. Please do not try to show how much you like or dislike your job; just try to be as accurate and factually correct as possible.

First, read the descriptions at each end of the scale, under [1] and [7] and in the middle under [4]. Then check one of these boxes — or one in between — that best describes what your job is like.

4. How much variety is there in your job?

4:30

[1]	[2]	[3]	[4]	[5]	[6]	[7]
Very little; I do pretty much the same things over and over, using the same equipment and procedures almost all the time.			Moderate variety.			Very much; I do many things, using a variety of equipment and procedures.

5. How much does the work you do on your job make a visible impact on a product or service? 4:31
- | | | | | | | |
|--|-----|---|-----|-----|---|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| None at all; it is hard to tell what impact my work makes on the product or service. | | A moderate amount: the impact of my job is visible along with that of others. | | | A great amount; my work is clearly visible, it makes a noticeable difference in the final product or service. | |
6. How much freedom do you have on your job? That is, how much do you decide on your own what you do on your job? 4:32
- | | | | | | | |
|---|-----|--|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Very little; there are few decisions about my job which I can make by myself. | | A moderate amount; I have responsibility for deciding some of the things I do, but not others. | | | Very much; there are many decisions about my job which I can make by myself. | |
7. How often does your job require that you meet or check with other people in this organization? 4:33
- | | | | | | | |
|--|-----|--|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Not at all; I never have to meet or check with others. | | I sometimes need to meet or check with others. | | | Very often; I must constantly meet or check with others. | |
8. How much challenge is there on your job? 4:34
- | | | | | | | |
|--|-----|---------------------|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| There is very little challenge on my job; I don't get a chance to use any special skills and abilities and I never have jobs which require all my abilities to complete them successfully. | | Moderate challenge. | | | There is a great deal of challenge on my job; I get a chance to use my special skills and abilities and often have jobs which require all my abilities to complete successfully. | |
9. As you do your job, can you tell how well you're performing? 4:35
- | | | | | | | |
|--|-----|--|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Not at all; I could work on my job indefinitely without ever finding out how well I am doing unless somebody tells me. | | Moderately; sometimes by just doing the job I can find out how well I'm performing, sometimes I can't. | | | A great deal; I can almost always tell how well I'm performing just by doing my job. | |

10. In general, how significant or important is your job. That is, are the results of your work likely to significantly affect the lives or well-being of other people? 4:36
- | | | | | | | |
|---|-----|-------------------------|-----|-----|---|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Not very significant; the outcomes of my work are not likely to have important affects on other people. | | Moderately significant. | | | Highly significant; the outcomes of my work can affect other people in very important ways. | |
11. How much uncertainty is there in your job? 4:37
- | | | | | | | |
|--|-----|-----------------------|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Very little; I almost always know what to expect and am never surprised by something happening unexpectedly on my job. | | Moderate uncertainty. | | | A great deal; I almost never am sure what is going to happen, and unexpected things frequently happen. | |
12. How much control do you have in setting the pace of your work? 4:38
- | | | | | | | |
|---|-----|--------------------------------|-----|-----|---|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Very little; pace is predetermined and I must work at a strict pace set by someone or something else. | | Moderate control of work pace. | | | A great deal; I determine my own work pace. | |
13. How much do you have to cooperate directly with other people in this organization in order to do your job? 4:39
- | | | | | | | |
|---|-----|--|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| Very little; I can do almost all my work by myself. | | A moderate amount; some of my work requires cooperating with others. | | | Very much; all my work requires cooperating with others. | |
14. How much does your job involve your producing an entire product or an entire service? 4:40
- | | | | | | | |
|---|-----|--|-----|-----|--|-----|
| [1] | [2] | [3] | [4] | [5] | [6] | [7] |
| My job involves doing only a small part of the entire product or service; it is also worked on by others or by automatic equipment and I may not see or be aware of much of the work which is done on the product or service. | | My job involves doing a moderate sized "chunk" of work; while others are involved as well, my own contribution is significant. | | | My job involves producing the entire product or service from start to finish, the final outcome of the work is clearly the results of my work. | |

15. THE FOLLOWING STATEMENTS DESCRIBE HOW YOU MIGHT FEEL ABOUT YOUR JOB. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH STATEMENT?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	The work I do on my job is meaningful to me.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:41
b.	It is basically my own responsibility to decide how my job gets done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:42
c.	To be successful on my job requires all my skill and ability.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:43
d.	I have too much work to do to do everything well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:44
e.	I have all the skills I need in order to do my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:45
f.	To satisfy some people on my job, I have to upset others.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:46
g.	I have the freedom to decide what I do on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:47
h.	I feel that most of the things I do on my job are meaningless.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:48
i.	On my job, I can't satisfy everybody at the same time.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:49

HOW YOU FEEL ABOUT YOUR JOB – AGREE OR DISAGREE ...

j.	The amount of work I am asked to do is fair.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:50
k.	I feel personally responsible for the work I do on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:51
l.	Most of the time I know what I have to do on my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:52
m.	On my job, I seldom get a chance to use my special skills and abilities.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:53
n.	I never seem to have enough time to get everything done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:54
o.	My job is very challenging.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:55
p.	I deserve credit or blame for how well my work gets done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:56
q.	I seldom know whether I'm doing my job well or poorly.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:57
r.	On my job, I know exactly what is expected of me.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	4:58

MODULE 4 – WORK GROUP FUNCTIONING

The next set of questions is concerned with groups in this organization. For this questionnaire, please think of your "work group" as the set of people with whom you work most closely on a day-to-day basis; that is, those in your section or branch.

If you are a member of only one work group, the questions are easy to answer. If you are a member of two or more work groups, you will need to decide which one group to think about when answering the questions.

For this part of the questionnaire, keep this one group in mind.

1. THE FOLLOWING ARE STATEMENTS THAT MAY OR MAY NOT DESCRIBE YOUR WORK GROUP. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH STATEMENT?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	I feel I am really part of my work group.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:13
b.	My work group knows exactly what things it has to get done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:14
c.	People who offer new ideas in my work group are likely to get "clobbered."	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:15
d.	Members of my work group vary widely in their skills and abilities.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:16
e.	My co-workers are afraid to express their real views.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:17
f.	Each member of my work group has a clear idea of the group's goals.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:18
g.	If we have a decision to make, everyone is involved in making it.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:19
h.	My work group contains members with widely varying backgrounds.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:20
i.	We tell each other the way we are feeling.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:21
j.	Some of the people I work with have no respect for others.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:22
k.	I look forward to being with the members of my work group each day.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:23
l.	There are feelings among members of my work group which tend to pull the group apart.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:24
m.	In my work group, everyone's opinion gets listened to.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:25
n.	There is constant bickering in my work group.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	5:26

MODULE 5 – SUPERVISORY BEHAVIOR

This part asks about your immediate supervisor in this organization. Your supervisor is the individual that you report to directly. He or she may also evaluate your work, give you assignments, etc.

1. THE FOLLOWING STATEMENTS DESCRIBE THE WAY A SUPERVISOR MIGHT PERFORM HIS OR HER JOB. PLEASE INDICATE WHETHER YOU AGREE OR DISAGREE WITH EACH OF THE STATEMENTS AS DESCRIPTIONS OF YOUR DIRECT SUPERVISOR.

MY SUPERVISOR ...

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	... encourages subordinates to participate in important decisions.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:13
b.	... plans out work in advance.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:14
c.	... keeps subordinates informed.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:15
d.	... is always fair with subordinates.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:16
e.	... encourages people to speak up when they disagree with a decision.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:17
f.	... makes sure subordinates have clear goals to achieve.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:18
g.	... demands that people give their best effort.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:19
h.	... handles the administrative parts of his or her job extremely well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:20
i.	... keeps informed about the work which is being done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:21

MY SUPERVISOR ...

j.	... makes it clear how I should do my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:22
k.	... demands that subordinates do high quality work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:23
l.	... helps me solve work-related problems.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:24
m.	... makes sure subordinates know what has to be done.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:25
n.	... is concerned about me as a person.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:26
o.	... helps me discover problems before they get too bad.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:27

MY SUPERVISOR . . .

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
p.	. . . keeps informed about the way subordinates think and feel about things.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:28
q.	. . . helps subordinates develop their skills.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:29
r.	. . . feels each subordinate is important as an individual.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:30
s.	. . . makes most decisions without asking subordinates for their opinions.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:31
t.	. . . has the respect of subordinates.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:32
u.	. . . is biased on the basis of race.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:33
v.	. . . makes important decisions without involving subordinates.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:34
w.	. . . deals with subordinates well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:35
x.	. . . maintains high standards of performance.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:36
y.	. . . helps subordinates with their personal problems.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:37
z.	. . . insists that subordinates work hard.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:38
aa.	. . . knows the technical parts of his or her job extremely well.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:39
bb.	. . . tends to play favorites.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:40
cc.	. . . is competent.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:41
dd.	. . . is biased on the basis of sex.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:42
ee.	. . . rewards me for good performance.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:43
ff.	. . . praises good work.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:44
gg.	. . . treats me better if I do a good job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:45
hh.	. . . criticizes people who perform poorly.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:46
ii.	. . . keeps poor performers from getting rewarded.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:47
jj.	. . . can't stand being criticized.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:48
kk.	. . . looks for one of us to blame when things go wrong.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:49
ll.	. . . doesn't realize how he/she makes subordinates feel.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:50
mm.	. . . is someone I can trust.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	6:51

MODULE 6 – PAY

The next section of this questionnaire contains a number of questions and statements about you, your job, and related issues at NARF Alameda. Please answer the following questions keeping in mind the kind of work you do and the experiences that you have had working here. Follow the directions that are given in the boxes at the beginning of the list of questions.

1. IN THE SECTION BELOW ARE LISTED A NUMBER OF FACTORS THAT ARE OFTEN USED TO DETERMINE AN INDIVIDUAL'S PAY GRADE. FOR EACH, YOU ARE ASKED TO INDICATE HOW IMPORTANT NARF ALAMEDA FEELS THAT FACTOR IS FOR DETERMINING AN INDIVIDUAL'S PAY GRADE.

PLEASE CHECK THE NUMBER ON THE SCALE THAT REPRESENTS THE IMPORTANCE OF THE FACTOR BEING RATED. FOR THIS PART OF THE QUESTIONNAIRE, LOW NUMBERS REPRESENT UNIMPORTANT FACTORS. IF YOU THINK A GIVEN FACTOR IS UNIMPORTANT IN DETERMINING YOUR PAY, YOU WOULD CHECK THE NUMBER [1]. IF YOU THINK IT IS "JUST A LITTLE IMPORTANT," YOU WOULD CHECK A NUMBER TO THE RIGHT.

FOR EACH ITEM, CHECK ONLY ONE NUMBER AND PLEASE DO NOT LEAVE OUT ANY ITEMS.

For the purpose of determining your pay grade, how important to NARF is . . .

				Very Unimportant			Important		Very Important	
a.	. . . your education, training, and experience?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:13
b.	. . . the amount of responsibility and pressure on your job?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:14
c.	. . . the quality of your job performance?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:15
d.	. . . your productivity?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:16
e.	. . . the amount of effort you expend on the job?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:17
f.	. . . the quality of your work group's performance?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:18
g.	. . . the productivity of your work group?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:19
h.	. . . the overall performance of the NARF?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:20
i.	. . . the total labor costs?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:21
j.	. . . the costs for material usage?	. . . . .	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:22

2. HERE ARE SOME STATEMENTS ABOUT YOU AND YOUR JOB. HOW MUCH DO YOU AGREE OR DISAGREE WITH EACH OF THE FOLLOWING STATEMENTS?

		Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a.	I am very happy with the amount of money I make.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:23
b.	How much pay I receive depends almost entirely on how well I perform my job.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:24
c.	Other companies in this area pay better than this one does.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:25
d.	I don't make the kind of money I should for the job I do.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:26
e.	All in all, my pay is about what it ought to be.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:27
f.	Considering my skills and the effort I put into my work, I am very satisfied with my pay.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:28
g.	Considering my skills and effort, I make a fair wage.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:29
h.	My pay is fair given what my co-workers make.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:30
i.	Pay raises around here depend on how well you perform.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:31
j.	My pay is fair compared to the pay of others at NARF.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:32
k.	I feel the pay system should be kept as it is.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:33
l.	My pay level is determined by my individual job performance.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:34
m.	My pay is fair considering what other places in this area pay.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:35
n.	My pay is fair.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:36
o.	I have no objections to other people at NARF knowing my annual salary.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:37
p.	My pay is fair considering what other people at NARF are paid.	[1]	[2]	[3]	[4]	[5]	[6]	[7]	7:38

3. PLEASE ANSWER THE FOLLOWING QUESTIONS.

a. How much pay is there for your job at present?

7:39

[1] [2] [3] [4] [5] [6] [7]

Less than I really
need to live.

Enough to
meet my needs.

Much more than
my needs require.

b. How much pay should there be for your job at present?

7:40

[1] [2] [3] [4] [5] [6] [7]

15%
Less

10%
Less

5%
Less

No more,
No Less

5%
More

10%
More

15%
More

c. How important is pay to you?

7:41

[1] [2] [3] [4] [5] [6] [7]

Unimportant

Moderately
important.

Important

MODULE 7 - ORGANIZATIONAL CHARACTERISTICS

THE NEXT QUESTIONS ARE ABOUT THE GENERAL CHARACTERISTICS OF NARF ALAMEDA. PLEASE ANSWER THE FOLLOWING QUESTIONS KEEPING IN MIND HOW THESE CHARACTERISTICS IMPACT ON YOUR ABILITY TO DO YOUR JOB.

1. HERE ARE SOME STATEMENTS ABOUT YOU AND THE NARF. HOW MUCH DO YOU AGREE OR DISAGREE WITH THE FOLLOWING STATEMENTS.

	Strongly Disagree	Disagree	Slightly Disagree	Neither Agree or Disagree	Slightly Agree	Agree	Strongly Agree	
a. I have to go through a lot of red tape to get things done.	1	2	3	4	5	6	7	8:13
b. I get hemmed in by long standing rules and regulations that no one seems to be able to explain.	1	2	3	4	5	6	7	8:14
c. Rules and regulations often stand in the way of getting things done.	1	2	3	4	5	6	7	8:15
d. In this Division, responsibility is assigned so that each person has enough authority to do his job.	1	2	3	4	5	6	7	8:16
e. It is often <u>not</u> clear who has the authority to make a decision regarding my job.	1	2	3	4	5	6	7	8:17
f. Things that are seen as most important in this Division are <u>not</u> related to overall effectiveness.	1	2	3	4	5	6	7	8:18
g. The way the Division is organized permits me to do my job in an efficient manner.	1	2	3	4	5	6	7	8:19
h. I am able to get the supplies, materials, etc., to do my job well.	1	2	3	4	5	6	7	8:20
i. I am able to satisfy any conflicting demands of those over me.	1	2	3	4	5	6	7	8:21
j. Communication is hindered by following the rules laid down by the chain of command.	1	2	3	4	5	6	7	8:22

2. HERE ARE SOME ADDITIONAL STATEMENTS ABOUT YOU AND THE NARF. HOW OFTEN DO EACH OF THE FOLLOWING OCCUR.

	Never	Rarely	Sometimes	Often	Almost Always	
a. How often are you given advance information about changes (policies, procedures, etc.) which might affect you.	1	2	3	4	5	8:23
b. How often are objectives or policies of this Division changed.	1	2	3	4	5	8:24
c. How often are you able to get accurate information about policies and objectives at the NARF.	1	2	3	4	5	8:25
d. When changes are made in your work, are you told why?	1	2	3	4	5	8:26
e. How often are changes made after you begin a task because of poor planning or lack of coordination.	1	2	3	4	5	8:27
f. My supervisor is able to cut through the "red tape" so I can get my job done.	1	2	3	4	5	8:28
g. There is good cooperation between different parts of the NARF that enables me to do my job.	1	2	3	4	5	8:29
h. There is poor communication between different parts of the NARF (sections, divisions, etc.).	1	2	3	4	5	8:30
i. Management at the NARF makes it easy to get my job done.	1	2	3	4	5	8:31
j. It is more important in my Division to follow the rules than to get the job done.	1	2	3	4	5	8:32

MODULE 8 - PHYSICAL CHARACTERISTICS OF WORK PLACE

THE NEXT QUESTIONS ARE ABOUT CHARACTERISTICS OF THE PHYSICAL PLANT AT THE NARF. PLEASE ANSWER THE FOLLOWING QUESTIONS DESCRIBING THE HABITABILITY OF YOUR WORK PLACE.

1. FOR EACH OF THE ENVIRONMENTAL CONDITIONS BELOW, CIRCLE THE NUMBER THAT COMES CLOSEST TO DESCRIBING THE WAY THINGS ARE IN YOUR WORKING AREA.

Lighting	Dim	1	2	3	4	5	Bright	9:13
Temperature/ventilation	Hot	1	2	3	4	5	Cold	9:14
Cleanliness	Dirty	1	2	3	4	5	Clean	9:15
Amount of space	Crowded	1	2	3	4	5	Roomy	9:16
Color/appearance	Unattractive	1	2	3	4	5	Attractive	9:17
Noise	Extremely distrubing	1	2	3	4	5	Not disturbing	9:18
Physical layout	Inconvenient	1	2	3	4	5	Convenient	9:19
Storage spaces	Inadequate	1	2	3	4	5	Plenty	9:20
Safety	Hazardous	1	2	3	4	5	Safe	9:21
Quality & condition of equipment/materials	Poor	1	2	3	4	5	Excellent	9:22
Quality & location of rest rooms	Poor	1	2	3	4	5	Excellent	9:23
Quality & location of eating facilities	Poor	1	2	3	4	5	Excellent	9:24
Privacy	None	1	2	3	4	5	Plenty	9:25

2. FOR EACH OF THE CONDITIONS BELOW, CIRCLE THE NUMBER WHICH COMES CLOSEST TO DESCRIBING HOW IMPORTANT EACH ONE IS TO YOU PERSONALLY.

	Not at all important	Somewhat unimportant	Neutral	Somewhat important	Very important	
Lighting	1	2	3	4	5	9:26
Temperature/ventilation	1	2	3	4	5	9:27
Cleanliness	1	2	3	4	5	9:28
Amount of space	1	2	3	4	5	9:29

	Not at all important	Somewhat Unimportant	Neutral	Somewhat important	Very important	
Color/appearance	1	2	3	4	5	9:30
Noise	1	2	3	4	5	9:31
Physical Layout	1	2	3	4	5	9:32
Storage spaces	1	2	3	4	5	9:33
Safety	1	2	3	4	5	9:34
Quality & condition of equipment/materials	1	2	3	4	5	9:35
Quality & location of rest rooms	1	2	3	4	5	9:36
Quality & location of eating facilities	1	2	3	4	5	9:37
Privacy	1	2	3	4	5	9:38

THIS COMPLETES THE QUESTIONNAIRE. COULD YOU PLEASE ANSWER THESE FINAL THREE QUESTIONS?

1. What did you think about the length of this questionnaire?

9:39

- [1] Much too long
- [2] Somewhat too long
- [3] Just about right
- [4] Somewhat too short
- [5] Much too short

2. How seriously did you answer the questions?

9:40

- [1] Not at all seriously
- [2] A little seriously
- [3] Somewhat seriously
- [4] Quite seriously
- [5] Very seriously

3. How much did you enjoy taking this questionnaire?

9:41

- [1] Not at all pleasant, enjoyable or fun
- [2] A little enjoyable
- [3] Somewhat enjoyable
- [4] Quite enjoyable
- [5] Extremely pleasant, enjoyable and fun

We appreciate your cooperation in spending time to answer our questions. If you have any comments on this study or other issues here in this organization, please feel free to use the space below for that purpose.

Once again, thank you.

COMMENTS:

APPENDIX B

**FACTOR LOADINGS FOR FACTOR ANALYSES PERFORMED ON
RESPONSES OF SAMPLES A AND B**

FACTOR LOADINGS FOR FACTOR ANALYSES PERFORMED ON RESPONSES OF SAMPLES A AND B

The factor loadings from the two samples for all 15 factor analyses performed on the two samples are provided in Tables B-1 through B-8.¹ For the most part, only items loading more than .20 are included in these tables. The following paragraphs explain how the rules for item inclusion outlined in the report were used to create first-order factor-based scales.

General Attitudes--Module 2

The factor loadings for the general attitudes (GA) items are provided in Table B-1. As shown, five GA factors were retained in both samples. Five items (GA7, 8, 9, 12, and 15) loaded strongly on the first factor in both samples. After reversing the scores of items with negative loadings (GA8, 9, and 12), the scores of the five items were combined into the general job satisfaction scale.

Four items (GA1, 3, 4, and 11) loaded significantly on the second factor in both samples. The factor emerged quite clearly in Sample A, but less so in Sample B, where two items (GA3 and 4) failed to exceed the strict .40 inclusion criterion. However, they were retained since they satisfied the less stringent .21 inclusion criterion. In addition, in Sample B, item GA11 loaded significantly on both the second and fourth factors. Thus, it was retained on the second factor because it loaded more strongly on it than on the fourth factor (.66 vs .49). These four items were combined into the achievement motivation scale.

Four items (GA10, 13, 14, and 16) loaded significantly on the third factor in Sample A and on the fourth factor in Sample B. Again, this factor was more clearly defined in Sample A than in Sample B. In Sample B, two items (GA10 and 16) failed to exceed the strict .40 inclusion criterion, but they were retained since both did exceed the less stringent .21 inclusion criterion. Before combining these four items into the organizational commitment scale, the negative score on item GA13 was reversed.

Three items (GA2, 6, and 19) loaded significantly on the fourth factor in Sample A and on the fifth in Sample B. Since this factor emerged quite clearly in both samples, these three items were combined into the investment in current job scale.

Finally, two items (GA17 and 18) loaded significantly on the fifth factor in Sample A and on the third factor in Sample B. Since this factor also emerged quite clearly in both samples, these two items were combined into the job involvement scale.

Job Facets--Module 3

The factor loadings from the three job facets (JF) analyses are shown in Table B-2. The sole factor to emerge for the importance ratings corresponds almost exactly to the first factor to emerge for the corresponding satisfaction ratings. Five of the six JF items that loaded on the importance factor (JF3, 4, 6, 8, and 10) also loaded onto the first satisfaction factor (JF14, 15, 17, 19, and 21). The first set of five items were combined into the importance of sense of accomplishment/freedom/growth scale; and the second set, into the corresponding satisfaction with sense of accomplishment/freedom/growth scale. The JF items that failed to load on both the importance and satisfaction factors (i.e., JF5 and 22) were excluded from these scales.

¹The tables are presented at the end of the appendix, commencing on page B-5.

Among the satisfaction ratings, three additional JF items (JF13, 16, and 20) loaded significantly onto a second satisfaction factor in both samples. The scores on these three items were combined into a satisfaction with interpersonal outcomes scale.

For the JF analysis of likelihood ratings, two factors emerged for both samples. Six items (JF23, 27, 29, 30, 31, and 32) loaded significantly onto the first factor in both samples. In Sample A, two items (JF23 and 27) failed to exceed the strict .40 inclusion criterion but were retained since they did exceed the less stringent .21 criterion. In addition, item JF 27 loaded more strongly on the second factor than on the first in Sample A, but it was retained on the first factor due to its exclusive, strong loading on the first factor in Sample B. The scores on these six items were combined into the supervisory recognition for good work scale.

Four additional items (JF24, 25, 26, and 28) loaded significantly onto the second factor in both samples. The scores on these four items were combined into a sense of accomplishment/growth for good work scale.

Task and Role Characteristics--Module 4

The factor loadings from the three TRC analyses are presented in Table B-3. As shown, three factors emerged in the first analysis for both samples. Three items (TRC3, 5, and 6) loaded significantly on the first factor in both samples. Also, items TRC7 and 16 loaded significantly on the first factor in Sample B, but, since they failed to load significantly on the first factor in Sample A, they were excluded from the scale. Item TRC3 loaded significantly on both the first and second factors in Sample A. However, since it loaded more strongly on the first factor in Sample A and loaded on only the first factor in Sample B, it was retained on the first factor. The scores on these three items were combined into a self-evaluation of performance scale.

Five items (TRC1, 2, 10, 11, and 12) loaded significantly onto the second factor in Sample A and on the third factor in Sample B. In Sample B, item TRC12 failed to exceed the strict .40 inclusion criterion but it was retained since it did exceed the less stringent .21 criterion. Before combining these five items into a job challenge scale, the negative scoring on item TRC11 was reversed.

Finally, two items (TRC4 and 13) loaded significantly on the third factor in Sample A and on the second factor in Sample B. The scores on these two items were combined into a self-control of work pace scale.

For the second TRC analysis, two factors emerged in both samples. Seven items (TRC18, 19, 20, 22, 23, 24, and 28) loaded significantly on the first factor in both samples. In Sample A, item TRC20 failed to exceed the stringent .40 inclusion criterion but it was included since it did exceed the less stringent .21 criterion. The scores on these seven items were combined into the job importance scale.

Similarly, three items (TRC21, 25, and 27) loaded significantly on the second factor in both samples. The scores on these three items were combined into the necessity for cooperation and coordination scale.

For the third TRC analysis, three factors emerged in both samples. Five items (TRC29, 31, 36, 41, and 43) loaded significantly on the first factor in both samples. Before combining the scores on these five items into a job meaningfulness scale, the negative scorings on items TRC36 and 41 were reversed. Similarly, three items (TRC32,

38, and 42) loaded significantly on the second factor in both samples. Before combining the scores on these items into a fair workload scale, the negative scorings on items TRC32 and 42 were reversed. Finally, three items (TRC39, 40, and 44) loaded significantly onto the third factor in both samples. Also, although item TRC 30 loaded significantly on the third factor in Sample A, it was excluded from the scale because it failed to load significantly on the third factor in Sample B. Consequently, the scores of these items were combined into a sense of job responsibility scale.

Work Group Functioning--Module 5

The factor loadings for the work group functioning (WGF) items are shown in Table B-4. Two factors emerged in Sample A and three in Sample B. Nine items (WGF1, 2, 3, 5, 6, 7, 9, 11, and 13) loaded significantly on the first factor in Sample A. Only five of these (WGF1, 2, 6, 9, and 11) loaded on the first factor in Sample B. The scores on these five items were combined into a work group cohesion scale. The remaining four items (WGF3, 5, 7, and 13) loaded on the third factor in Sample B. Before combining the scores on these four items into a group decision making scale, the negative scoring on items WGF3 and 5 were reversed. Finally, three items (WGF10, 12, and 16) loaded significantly onto the second factor in both samples. Items WGF11 and 13 also loaded significantly onto the second factor in Sample A; however, since they loaded more strongly onto the first factor in Sample A and failed to load at all on the second factor in Sample B, they were excluded from the second factor. After reversing the scoring on items 10, 12, and 14, they were combined into a work group concord scale.

Supervisory Behavior--Module 6

The factor loadings for the supervisory behavior (SB) items are provided in Table B-5. As shown, four factors emerged in both samples. Twenty items (SB1, 3, 4, 5, 12, 14, 15, 16, 17, 18, 20, 23, 25, 28, 31, 32, 36, 37, 38, and 39) loaded significantly on the first factor in Sample A. Of these, all but item SB3 loaded on the second factor in Sample B. After excluding this item, the remaining 19 items constituted the initial pool for scale construction. Since three items (SB12, 15, and 17) loaded more strongly on another factor in both samples, they were excluded, as were items SB28 and 37, which also loaded more strongly on another factor in Sample B. The scores on the remaining 14 items were combined into the consideration scale, after reversing the negative scoring on items SB36 and 38.

A similar procedure was used to generate the second factor-based scale. In Sample A, 18 items (SB2, 3, 4, 5, 6, 8, 9, 10, 12, 13, 15, 16, 17, 20, 23, 24, 27, and 29) loaded significantly on the second factor. Since five of these items (SB4, 5, 16, 20, and 23) loaded more strongly on the first factor in Sample A, they were excluded. In Sample B, 21 items (SB2, 3, 4, 6, 8, 9, 10, 12, 13, 14, 15, 16, 17, 18, 20, 23, 24, 25, 27, 29, and 39) loaded on the first factor, which, according to the RELATE analysis, corresponded to the second factor in Sample A. Since four of these items (SB4, 14, 18, and 23) loaded more strongly on the second factor in Sample B, they were excluded, as were four other items (SB16, 20, 25, and 39) which loaded about equally strongly on factors 1 and 2 in Sample B but loaded more strongly, or solely, on a different factor in Sample A. These exclusions left 13 common items for both samples, whose scores were combined into the initiating structure scale.

Three items (SB7, 11, and 26) loaded significantly on the third factor in Sample A and the fourth factor in Sample B. The scores on these three items were combined into the production emphasis scale.

Finally, five items (SB21, 28, 29, 30, and 37) loaded significantly on the fourth factor in Sample A. Since four of these items (SB21, 28, 30, and 37) also loaded on the third factor in Sample B, the scores on these four items were combined into the sensitivity scale.

Pay--Module 7

The factor loading for the two analyses on the pay (P) items are provided in Table B-6. As shown, two factors emerged for both samples in the analysis of pay determinants. Seven items (P1 through 7) loaded significantly on the first factor in both samples; and five (P6 through 10), on the second factor in both samples. The content of the items P1 through 5 dealt with individual determinants of pay; items P6 and P7 (which loaded on both factors), with group determinants of pay; and items P8 through 10, with other determinants of pay. In terms of content, it made more sense to combine the group determinants with the other determinants, rather than with the individual determinants. Consequently, the scores on the first five items were combined into the individual determinants of pay scale; and the scores on the remaining five, into the other determinants of pay scale.

In the analysis of pay characteristics, nine items (P11, 13, 14, 15, 16, 17, 21, 23, and 24) loaded significantly on the first factor in both samples. The scores on these nine items were combined into the satisfaction with pay scale. Three items (P18, 20, and 26) loaded significantly on the second factor in both samples. The scores on these three items were combined into the fairness of pay scale.

Organizational Characteristics--Module 8

The factor loadings for the two organizational characteristics (OC) analyses are presented in Table B-7. As shown, two factors emerged in the first analysis for both samples. Six items (OC1, 2, 3, 5, 6, and 10) loaded significantly on the first factor in both samples. Even though items OC5 and 6 loaded more strongly on the second factor in Sample B, they loaded only on the first factor in Sample A. Consequently, they were retained on the first factor. After reversing the scoring on all six items, the scores on these six items were combined into the lack of impediments to productivity scale. Four items (OC4, 7, 8, and 9) loaded significantly on the second factor in both samples. The scores on these four items were combined into the facilitation of productivity scale.

In the second analysis, a single factor emerged for both samples. Seven items (OC12, 15, 16, 17, 18, 19, and 20) loaded significantly on this factor in both samples. After reversing the negative scoring on items OC12, 15, 18, and 20, the scores on these seven items were combined into the good communication scale.

Physical Characteristics of the Work Space--Module 9

The factor loadings for the two analyses of the physical characteristics of the work place (PC) items are shown in Table B-8. One factor emerged in both analyses for both samples. In the first analysis, six items (PC4, 5, 6, 7, 8, and 13) loaded significantly on the sole factor in both samples. The scores on these six items were combined into the desirability of the immediate work space scale. In the second analysis, ten items (PC15, 16, 17, 18, 19, 20, 21, 24, 25, and 26) loaded significantly on this factor in either one or both of the samples. The content of six of these ten items (PC17, 18, 19, 20, 21, and 26) was exactly the same as the content of the factor that emerged in the previous analysis. Thus, to produce comparable desirability and importance scales, the scores on these six items were combined into the importance of desirability of the immediate work space scale.

Table B-1
General Attitude Factor Loadings

Items	Sample A Factor Loadings					Sample B Factor Loadings				
	1	2	3	4	5	1	2	3	4	5
<i>Genl job satisf</i> All in all, I am satisfied with my job (GA7)	.76	--	--	--	--	.83	--	--	--	--
In general, I don't like my job (GA9)	-.71	--	--	--	--	-.73	--	--	--	--
In general, I like working here (GA15)	.66	--	--	--	--	.72	--	--	--	--
I often think about quitting (GA12)	-.65	--	--	--	--	-.64	--	--	--	--
I will probably look for a new job in the next year (GA8)	-.60	--	--	--	--	-.54	--	--	--	--
<i>Achieve mot.</i> I get a feeling of personal satisfaction from doing my job well (GA1)	--	.75	--	--	--	--	.84	--	--	--
Doing my job well gives me a good feeling (GA11)	--	.72	--	--	--	--	.66	--	.49	--
I am very much personally involved in my work (GA3)	--	.50	--	--	--	--	(.38)	--	--	--
<i>org. commit</i> I work hard on my job (GA4)	--	.43	--	--	--	--	(.28)	--	--	--
I don't care what happens to this organization as long as I get my pay check (GA13)	--	--	-.65	--	--	--	--	--	-.53	--
What happens to this organization is really important to me (GA10)	--	--	.65	--	--	--	--	--	(.36)	--
I feel bad when I do a poor job (GA16)	--	--	.41	--	--	--	--	--	(.24)	--
<i>Job misplacement</i> I feel personally responsible for the work I do on my job (GA14)	--	--	.40	--	--	--	--	--	.64	--
It would be hard for me to leave my job even if I wanted to (GA2)	--	--	--	.68	--	--	--	--	--	.79
I have too much at stake in my job to change jobs now (GA19)	--	--	--	.67	--	--	--	--	--	.44
I dread the thought of what might happen if I quit my job without having another one lined up (GA6)	--	--	--	.51	--	--	--	--	--	.48
The most important things which happen to me involve my job (GA18)	--	--	--	--	.76	--	--	.65	--	--
I live, eat, and breathe my job (GA17)	--	--	--	--	.74	--	--	.79	--	--

Table B-2
Job Facets Factor Loadings

Items	Sample A Factor Loadings		Sample B Factor Loadings	
	1	2	1	2
Analysis of Importance Ratings				
The chances you have to learn new things (JF4)	.70	--	.60	--
The amount of freedom you have on your job (JF3)	.62	--	.61	--
The chances you have to accomplish something worthwhile (JF6)	.62	--	.75	--
The chances you have to do something that makes you feel good about yourself as a person (JF8)	.58	--	.57	--
The chances you have to take part in making decisions (JF10)	.56	--	.58	--
The respect you receive from people you work with (JF5)	.51	--	.69	--
Analysis of Satisfaction Ratings				
The chances you have to accomplish something worthwhile (JF17)	.80	--	.83	--
The chances you have to do something that makes you feel good about yourself as a person (JF19)	.79	--	.79	--
The chances you have to learn new things (JF15)	.76	--	.53	--
The chances you have to take part in making decisions (JF21)	.64	--	.49	--
The amount of freedom you have on your job (JF14)	.58	--	.43	--
The amount of job security you have (JF22)	(.18)	--	.43	--
The way you are treated by the people you work with (JF20)	--	.86	--	.85
The friendliness of the people you work with (JF13)	--	.69	--	.76
The respect you receive from the people you work with (JF16)	--	.73	--	.73
Analysis of Likelihood Ratings				
You will get special recognition or feedback from your supervisor (JF29)	.80	--	.74	--
Your supervisor will see to it that the division head and/or department head knows of your accomplishments (JF32)	.80	--	.86	--
Your supervisor will remember your work when considering you for special training (JF31)	.78	--	.81	--
Your good work will be reflected in your annual performance appraisal (JF30)	.74	--	.74	--
You will get a bonus or pay increase (JF23)	(.39)	--	.52	--
You will be promoted or get a better job (JF27)	(.35)	.45	.50	--
You will have an opportunity to develop your skills and abilities (JF25)	--	.74	--	.81
You will get a feeling that you've accomplished something worthwhile (JF28)	--	.71	--	.63
You will be given chances to learn new things (JF26)	--	.67	--	.65
You will feel better about yourself as a person (JF24)	--	.57	--	.44

Table 3
Matrices of Factor Structures for Samples A and B

Sample A Analysis/Factor	Sample B Analysis/Factor				
	1	2	3	4	5
General Attitudes--Module 2					
A. All items:					
1	0.993	-0.100	-0.029	-0.036	-0.032
2	0.110	0.988	0.027	0.104	0.010
3	0.029	-0.110	0.069	0.988	0.078
4	0.030	-0.006	0.060	-0.084	0.994
5	0.022	-0.022	0.995	-0.067	-0.066
Job Facets--Module 3					
B. Satisfaction ratings:					
1	1.000	0.004	-	-	-
2	-0.004	1.000	-	-	-
C. Likelihood ratings:					
1	0.998	-0.058	-	-	-
2	0.058	0.998	-	-	-
Task and Role Characteristics--Module 4					
A. Agreement on presence of job characteristics:					
1	0.933	0.040	-0.359	-	-
2	0.361	-0.058	0.931	-	-
3	-0.016	0.998	0.068	-	-
B. Ratings of job characteristics:					
1	0.996	0.092	-	-	-
2	-0.092	0.996	-	-	-
C. Agreement on feelings toward job:					
1	0.999	0.054	-0.008	-	-
2	-0.054	0.999	0.012	-	-
3	0.009	-0.011	1.000	-	-
Work Group Functioning--Module 5					
A. All items:					
1	0.824	-0.195	0.532	-	-
2	0.018	0.948	0.319	-	-
Supervisory Behavior--Module 6					
A. All items:					
1	0.045	0.972	0.228	0.009	-
2	0.990	-0.024	-0.090	-0.109	-
3	0.107	-0.010	-0.019	0.994	-
4	0.084	-0.231	0.969	0.008	-
Pay--Module 7					
A. Pay determinants:					
1	0.998	0.062	-	-	-
2	-0.062	0.998	-	-	-
B. Pay satisfaction:					
1	0.999	-0.041	-	-	-
2	0.041	0.999	-	-	-
Organizational Characteristics--Module 8					
A. Agreement on organizational characteristics:					
1	0.989	0.150	-	-	-
2	-0.150	0.989	-	-	-

Table B-4
Work Group Functioning Factor Loadings

Item	Sample A Factor Loadings		Sample B Factor Loadings		
	1	2	1	2	3
My work group knows exactly what things have to be done (WGF2)	.72	--	.68	--	--
Each member of my work group has a clear idea of the group's goals (WGF6)	.70	--	.81	--	--
My co-workers are afraid to express their real views (WGF5)	-.62	--	(-.14)	--	-.50
In my work group, everyone's opinion gets listened to (WGF13)	.54	.47	(.16)	--	.64
I feel I am really part of my work group (WGF1)	.54	--	.59	--	--
If we have a decision to make, everyone is involved in making it (WGF7)	.51	--	(.27)	--	.61
People who offer new ideas in my work group are likely to get "clobbered" (WGF3)	-.49	--	(-.38)	--	-.40
We tell each other the way we are feeling (WGF9)	.47	--	(.38)	--	--
I look forward to being with the members of my work group each day (WGF11)	.43	.42	.52	--	--
There are feelings among members of my work group which tend to pull the group apart (WGF12)	--	.74	--	.71	--
There is constant bickering in my work group (WGF14)	--	.66	--	.78	--
Some of the people I work with have no respect for others (WGF10)	--	.63	--	.62	--

Table B-5
Supervisory Behavior Factor Loadings

Items	Sample A Factor Loadings				Sample B Factor Loadings			
	1	2	3	4	1	2	3	4
Feels each subordinate is important as an individual (SB18)	.78	--	--	--	.42	.63	--	--
Is concerned about me as a person (SB14)	.72	--	--	--	.47	.64	--	--
Praises good work (SB32)	.68	--	--	--	--	.77	--	--
Deals with subordinates well (SB23)	.67	.45	--	--	.54	.55	--	--
Is always fair with subordinates (SB4)	.66	.40	--	--	.45	.57	--	--
Helps subordinates with their personal problems (SB25)	.65	--	--	--	.48	.47	--	--
Has the respect of subordinates (SB20)	.61	.52	--	--	.51	.48	--	--
Is someone I can trust (SB39)	.60	--	--	--	.53	.42	--	--
Encourages people to speak up when they disagree with a decision (SB5)	.57	.43	--	--	--	.64	--	--
Keeps informed about the way subordinates think and feel about things (SB16)	.56	.53	--	--	.55	.53	--	--
Doesn't realize how he/she makes subordinates feel (SB38)	-.56	--	--	--	--	(-.39)	--	--
Helps subordinates develop their skills (SB17)	.55	.56	--	--	.61	.52	--	--
Can't stand being criticized (SB36)	-.53	--	--	--	--	(-.38)	--	--
Rewards me for good performance (SB31)	.52	--	--	--	--	.57	--	--
Helps me discover problems before they get too bad (SB15)	.52	.56	--	--	.63	.49	--	--
Encourages subordinates to participate in important decisions (SB1)	.50	--	--	--	--	.51	--	--
Looks for one of us to blame when things go wrong (SB37)	-.47	--	--	.41	--	(-.22)	.60	--
Keeps subordinates informed (SB3)	.45	.61	--	--	.67	--	--	--
Helps me solve work-related problems (SB12)	.42	.61	--	--	.64	.44	--	--
Tends to play favorites (SB28)	-.42	--	--	(.35)	--	(-.34)	.57	--
Keeps informed about the work which is being done (SB9)	--	.79	--	--	.78	--	--	--
Handles the administrative parts of his or her job extremely well (SB8)	--	.74	--	--	.79	--	--	--
Make sure subordinates know what has to be done (SB13)	--	.71	--	--	.70	--	--	--
Makes sure subordinates have clear goals to achieve (SB6)	--	.65	--	--	.67	--	--	--
Maintains high standards of performance (SB24)	--	.63	--	--	.69	--	--	--
Plans out work in advance (SB2)	--	.63	--	--	.74	--	--	--
Is competent (SB29)	--	.62	--	.46	.71	--	--	--
Knows the technical parts of his or her job extremely well (SB27)	--	.60	--	--	.72	--	--	--
Makes it clear how I should do my job (SB10)	--	.59	--	--	.69	--	--	--
Demands that subordinates do high quality work (SB11)	--	--	.76	--	--	--	--	.82
Demands that people give their best effort (SB7)	--	--	.75	--	--	--	--	.50
Insists that subordinates work hard (SB26)	--	--	.73	--	--	--	--	.78
Is biased on the basis of race (SB21)	--	--	--	.69	--	--	.79	--
Is biased on the basis of sex (SB30)	--	--	--	.56	--	--	.73	--

Table B-6
Pay Factor Loadings

Items	Sample A Factor Loadings		Sample B Factor Loadings	
	1	2	1	2
Analysis of Pay Determinants				
The quality of your job performance (P3)	.88	--	.87	--
The amount of effort you expend on the job (P5)	.81	--	.80	--
Your productivity (P4)	.80	--	.83	--
The quality of your work group's performance (P6)	.74	.49	.59	.59
The productivity of your work group (P7)	.69	.54	.57	.69
The amount of responsibility and pressure on your job (P2)	.67	--	.74	--
Your education, training, and experience (P1)	.57	--	.59	--
The costs of material usage (P10)	--	.89	--	.84
The total labor costs (P9)	--	.87	--	.89
The overall performance of the NARF (P8)	--	.75	--	.85
Analysis of Pay Characteristics				
My pay is fair considering what other places in this area pay (P23)	.82	--	.58	--
Other companies in this area pay better than this one does (P13)	-.79	--	(-.35)	--
Considering my skills and effort, I make a fair wage (P17)	.76	--	.87	--
My pay is fair (P24)	.75	--	.85	--
Considering my skills and the effort I put into my work, I am very satisfied with my pay (P16)	.75	--	.86	--
All in all, my pay is about what it ought to be (P15)	.73	--	.81	--
I don't make the kind of money I should for the job I do (P14)	-.72	--	-.68	--
I am very happy with the amount of money I make (P11)	.67	--	.70	--
I feel the pay system should be kept as it is (P21)	.47	--	.62	--
My pay is fair compared to the pay of others at NARF (P20)	--	.85	--	.62
My pay is fair considering what other people at NARF are paid (P26)	--	.79	--	.89
My pay is fair given what my co-workers make (P18)	--	.63	--	.47

Table B-7

Organizational Characteristics Factor Loadings

Items	Sample A Factor Loadings		Sample B Factor Loadings	
	1	2	1	2
Analysis of Agreement on Organizational Characteristics				
I get hemmed in by longstanding rules and regulations that no one seems to be able to explain (OC2)	.88	--	.85	--
Rules and regulations often stand in the way of getting things done (OC3)	.83	--	.82	--
I have to go through a lot of red tape to get things done (OC1)	.77	--	.71	--
Communication is hindered by following the rules laid down by the chain of command (OC10)	.58	--	.40	--
Things that are seen as most important in this Division are <u>not</u> related to overall effectiveness (OC6)	.51	--	.44	.45
It is often <u>not</u> clear who has the authority to make a decision regarding my job (OC5)	.49	--	(.35)	.51
I am able to satisfy any conflicting demands of those over me (OC9)	--	.66	--	.59
The way the Division is organized permits me to do my job in an efficient manner (OC7)	--	.62	--	.72
I am able to get the supplies, materials, etc., to do my job well (OC8)	--	.59	--	.61
In this Division, responsibility is assigned so that each person has enough authority to do his job (OC4)	--	.45	--	.65
Analysis of Frequency of Organizational Characteristics				
There is poor communication between different parts of the NARF (Sections, Division, etc.) (OC18)	-.72	--	-.66	--
There is good cooperation between different parts of the NARF that enables me to do my job (OC17)	.64	--	.54	--
Management at the NARF makes it easy to get my job done (OC19)	.62	--	.66	--
How often are changes made after you begin a task because of poor planning or lack of coordination? (OC15)	-.46	--	-.61	--
My supervisor is able to cut through the "red tape" so I can get my job done (OC16)	.42	--	(.33)	--
It is more important in my Division to follow the rules than to get the job done (OC20)	-.41	--	-.42	--
How often are objectives or policies of this Division changed? (OC12)	-.40	--	-.55	--

Table B-8

Physical Characteristics of the Work Space Factor Loadings

Items	Sample A	Sample B
	<u>Factor Loadings</u>	<u>Factor Loadings</u>
	1	1
Analysis of Agreement on Presence of Work Space Characteristics		
Amount of space (PC4)	.81	.69
Physical layout (PC7)	.76	.60
Storage spaces (PC8)	.73	.74
Color/appearance (PC5)	.61	.41
Noise (PC6)	.52	.55
Privacy (PC13)	.51	.44
Analysis of Importance of Work Space Characteristics		
Physical layout (PC20)	.81	.68
Amount of space (PC17)	.70	.71
Storage spaces (PC21)	.56	(.32)
Color/appearance (PC18)	.50	.65
Privacy (PC26)	.47	.62
Noise (PC19)	.46	.53
Quality and location of eating facilities (PC25)	(.26)	.63
Cleanliness (PC16)	(.37)	.62
Quality and location of rest rooms (PC24)	(.13)	.61
Temperature/ventilation (PC15)	(.20)	.55

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